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Oceans and the law of the sea

Oceans and the law of the sea

Report of the Secretary-General

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Abbreviations

ABLOS	Advisory Board on Geodetic, Hydrographic and Marine Geo-Scientific Aspects of the Law of the Sea (Advisory Board on the Technical Aspects of the Law of the Sea)
ACOPS	Advisory Committee for Protection of the Sea
APFIC	Asia-Pacific Fishery Commission
ARGO	Array for Real-time Geostrophic Oceanography
ASEAN	Association of South-East Asian Nations
CARICOM	Caribbean Community
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CECAF	Fishery Committee for the Eastern Central Atlantic
CLIVAR	Climate Variability and Predictability Study
CMI	Comité Maritime International
COLREG	Convention on the International Regulations for Preventing Collisions at Sea, 1972
COREP	Comité Régional des Pêches du Golfe de Guinée
ECLAC	Economic Commission for Latin America and the Caribbean
FFA	Forum Fisheries Agency
GCOS	Global Climate Observing System
GCRMN	Global Coral Reef Monitoring Network
GEF	Global Environment Facility
GEOHAB	Global Ecology and Oceanography of Harmful Algal Blooms
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GFCM	General Fisheries Commission (formerly General Fisheries Council) for the Mediterranean
GIPME	Global Investigation of Pollution in the Marine Environment
GIS	Geographic Information System
GLOMARD	Global Marine Radioactivity Database
GMDSS	Global Maritime Distress and Safety System
GODAE	Global Ocean Data Assimilation Experiment
GODAR	Global Oceanographic Data Archaeology and Rescue Project
GOOS	Global Ocean Observing System

GPA	Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
GTOS	Global Terrestrial Observing System
HELCOM	Helsinki Commission for Baltic Marine Environment Protection
IACSD	Inter-Agency Committee on Sustainable Development
IAEA	International Atomic Energy Agency
I-ATTC	Inter-American Tropical Tuna Commission
IBSFC	International Baltic Sea Fishery Commission
ICAM	integrated coastal area management
ICC	International Chamber of Commerce
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
ICRI	International Coral Reef Initiative
ICJ	International Court of Justice
ICSPRO	Inter-Secretariat Committee on Scientific Programmes relating to Oceanography
ICSU	International Council for Science
IGOS	Integrated Global Observing Strategy (GOOS, GTOS and GCOS)
IHO	International Hydrographic Organization
IMCAM	integrated marine and coastal area management
IMSO	International Mobile Satellite Organization (formerly Inmarsat)
INF Code	International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IODE	International Oceanographic Data and Information Exchange programme
IOPC Fund	International Oil Pollution Compensation Fund, established by the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
IOTC	Indian Ocean Tuna Commission
IPCC	Intergovernmental Panel on Climate Change
IPHC	International Pacific Halibut Commission

ISM Code	International Safety Management Code
IUCN	The World Conservation Union
IUU fishing	illegal, unreported and unregulated fishing
IWC	International Whaling Commission
LL	International Convention on Load Lines
LMR-GOOS	Living Marine Resources module of GOOS
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto
MEPC	IMO Marine Environment Protection Committee
MSC	IMO Maritime Safety Committee
NAFO	Northwest Atlantic Fisheries Organization
NAMMCO	North Atlantic Marine Mammal Commission
NASCO	North Atlantic Salmon Conservation Organization
NEAFC	North-East Atlantic Fisheries Commission
NOAA	National Oceanic and Atmospheric Administration (United States)
NODCs	National Oceanographic Data Centres
NPAFC	North Pacific Anadromous Fish Commission
OLDEPESCA	Latin American Fisheries Development Organization
OSPAR	Commission for the protection of the Marine Environment of the North-East Atlantic
PAME	Protection of the Arctic Marine Environment (Arctic Council)
PICES	North Pacific Marine Science Organization
PMOs	Port Meteorological Officers
POPs	persistent organic pollutants
PSC	Pacific Salmon Commission
ROPME	Regional Organization for the Protection of the Marine Environment
SCOR	Scientific Committee on Ocean Research (ICSU)
SEAPOL	South-east Asian Programme in Ocean Law, Policy and Management
SOCA	Subcommittee on Oceans and Coastal Areas of the Administrative Committee on Coordination
SOLAS	International Convention for the Safety of Life at Sea
SOPAC	South Pacific Applied Geoscience Commission

SPREP	South Pacific Regional Environment Programme
STCW Convention	1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
STCW-F	1995 International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel
SUA Convention	1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation
TEMA	Training, Education and Mutual Assistance programme of IOC
TEU	twenty-foot equivalent unit
TSS	traffic separation schemes
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
VDRs	voyage data recorders
VMS	vessel monitoring system
VOS	Voluntary Observing Ships scheme (WMO)
WECAFC	Western Central Atlantic Fishery Commission
WGS 84	World Geodetic System 84
WHO	World Health Organization
WOCE	World Ocean Circulation Experiment

I. Overview

1. "The state of the world's seas and oceans is deteriorating. Most of the problems identified decades ago still elude resolution, and many are worsening."[1] The January 2001 report of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), entitled "A Sea of Troubles", from which this quote is taken, is yet another account of a situation which gives reason for concern, and necessitates action. More and more activities are taking place in narrow strips of land along the world's coastlines. From the explosive growth of coastal cities to the increase in tourism, from industrialization to the expansion of fish farming, the intensity of pressure on coastal areas has been increasing.

2. The pollution of the seas and oceans, which has caused great concern but was overshadowed by other threats such as the exhaustion of stocks and the destruction of habitats, has returned to the forefront of international concern. Pollution generally enters the sea from coastal industries and sewage systems. It also comes from inland industries via rivers and the air. The sewage pollution of the seas has become a great health hazard through contamination of seafood and degradation of coastal water quality. Such pollution also has detrimental economic effects as it ruins large areas for recreation and tourism.

3. Among other activities giving rise to concern, which not only hinder the process of sustainable development but also endanger the delicate legal balance struck in the United Nations Convention on the Law of the Sea (UNCLOS),[2] are the fisheries, including the overexploitation of stocks, the by-catch and discards, as well as the major changes in the shipping industry, which is showing the effect of the globalization of trade.

4. More than a billion people, mainly in developing countries, depend on the world's fisheries for their primary source of protein. The decline of the worldwide catch, which is an outcome of over-fishing, has reached serious proportions. As the competition for scarce resources continues unabated, there is a significant risk of threatening the peaceful order of the oceans established under UNCLOS. The fishing fleets, which operate near the coast where fish stocks are increasingly overexploited, are now venturing out into deeper waters in search of new stocks. The deep-sea stocks are more vulnerable than those in shallow waters. Trawling may do grave damage. Other practices, such as fishing with explosives, poisons or drift-nets, have a major ecological impact.

5. The globalization of exchange and the increase of trade have changed the face of the shipping industry. In 1999, international shipping registered its fourteenth year of consecutive growth, with seaborne trade reaching a record high of 5.23 billion tons. The increase in shipping has placed a heavy burden on the traffic through important navigation routes, particularly international straits, increasing the risk for major catastrophes. The distribution of world tonnage ownership has changed considerably over the past 20 years. The total world fleet continued to expand in 1999 by 1.3 per cent to 799 million tons. The globalization of trade has created a new shipping environment where the world merchant fleet is not registered in the countries of domicile of the parent enterprise, i.e. the countries where the controlling interest of the fleet is located. The world container ship fleet registered in major open-registry countries continued to expand in 1999 to 39.5 per cent of the world TEU (twenty-foot equivalent unit) capacity, as compared to 38.1 per cent in 1998. It is noteworthy that the ships of the 35 most important maritime countries are registered under a foreign flag. This has shifted the burden of control from flag States to port States and coastal States. The seven major open-registry countries (Panama, Liberia, Cyprus, Bahamas, Malta, Bermuda and Vanuatu) represent 75 per cent of vessels registered under their flags.

6. Another major problem facing the shipping industry is the ageing of the world's fleet. A considerable number of vessels, in particular large bulk carriers and tankers, are at least 25 years old, which increases risks of accidents with serious consequences to the marine environment and coastal areas. It also raises the issues related to the disposal of those ships when they are decommissioned: problems of recycling and of scrapping.

7. With the globalization of shipping, a global labour market for seafarers has emerged which has transformed the shipping industry into the world's first truly global industry. Therefore, a global response is required, as well as a body of global standards applicable to the whole industry. The end result of the technological and trade changes will depend upon the training, skills and experience of the people involved.

8. Parallel to these developments regarding shipping and navigation, crimes committed at sea are on the rise. Piracy and armed robbery are costing the shipping industry millions, while at the same time endangering the lives of seafarers. The smuggling of migrants and stowaways continues to rise. There is therefore a need to strengthen international efforts to combat these crimes at sea and for more effective surveillance and law enforcement. Moreover, many of these illicit acts have developed in the last decade and are not defined as crimes under international law.

9. Marine science and technology remain prerequisites for an understanding of many complex issues, such as the ocean/atmosphere relation, and to facilitate sound decision-making by managers. This requires the creation of favourable conditions for the integration of the efforts of scientists in the study of processes occurring in the marine environment and the interrelations between them. In order to ensure that the regime envisaged in UNCLOS will not remain an empty shell, there is a need to adopt national rules, regulations and procedures to promote and facilitate the conduct of marine scientific research, as well as to develop guidelines and criteria to assist States in ascertaining the nature and implications of marine scientific research.

10. The development of marine technology has pushed the frontier of access to resources into deep waters and remote areas. It has also permitted mankind to face its past through access to underwater cultural objects lying at the bottom of the oceans and seas. Negotiations are continuing at the United Nations Educational, Scientific and Cultural Organization (UNESCO), now entering the crucial phase for the determination of the regime applicable to the cultural heritage found in deep-water areas beyond the zones referred to in UNCLOS (see A/54/429, paras. 510-515, and A/55/61, paras. 222-223).

11. To deal with these issues linked with major usages and activities at sea, a great number of ocean-related treaties have been adopted. Apart from UNCLOS, which sets out the general legal framework, more than 450 treaties at the global and regional levels regulate fisheries, pollution from all sources (vessels, land-based, dumping) and navigation. Unfortunately, the link between the normative level and the implementation level is clearly insufficient. The adaptation of the institutional framework has been very slow and States need to enhance their institutional capacity to implement not only UNCLOS but also all the other specialized agreements often adopted with a view to developing technical aspects of the rules contained in UNCLOS. This proliferation of treaties, which overlap in many cases, is not producing the needed synergy because of the lack of coordination between their enforcement mechanisms. To add to the confusion, new international policy mechanisms, such as programmes, action plans and codes of conduct, have been and are being put in place, prepared and negotiated with as much effort as binding agreements. This complex web of binding and non-binding instruments has contributed to render the task of policy makers and managers at the national level more difficult. A great barrier exists between the international normative level and the national implementing level. There is a need to reorganize what is becoming an incoherent and highly complex architecture of ocean governance. The lack of knowledge-sharing within national administrations prevents the orderly adoption of necessary legislation and measures for the implementation of treaties as well as the necessary follow-up at the institutional level to execute and enforce them.

12. With regard to the impact of these issues on the environment, fisheries or navigation, serious efforts are under way to refocus energies towards achieving more concrete results and efficiency. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) was launched in 1995. It has encountered difficulties and is to be reviewed at the end of 2001. Agenda 21 is also to be reviewed in 2002, 10 years after its adoption. The revitalization of the regional seas programmes of the United Nations Environment Programme (UNEP) has been a step in the direction of the promotion of the integrated management and sustainable development of coastal areas. The regional level, which reflects the geographic scale of most problems, is paramount for ocean governance.

13. In relation to fisheries, actions are being taken to curb illegal, unreported and unregulated fishing (IUU fishing): at the global level, by the preparation of an international plan of action, and at the regional level, by strengthening the regional fisheries bodies and arrangements, which provide an efficient mechanism to ensure compliance with existing rules.

14. As far as navigation is concerned, the effects of the globalization of shipping are seen in the increase of

flags of open registry, weakening the principle of flag State jurisdiction, one of the pillars of the enforcement tool under UNCLOS. New enforcement mechanisms have emerged: port State control and coastal State jurisdiction. The issue of reflagging or flag-hopping is seen as one of the major obstacles in combating IUU fishing.

15. Overall, the lack of coordination and cooperation in addressing ocean issues, which call for a cross-sectoral response at all levels, starting at the national level, has prevented the emergence of more efficient and results-orientated ocean governance. A new attempt by the international community has been launched to attempt to refocus the political debate on those issues which needed to be addressed as a matter of urgency and to do so by promoting better cooperation and coordination at all levels: at the international level, to ensure that all competent international organizations are coordinating their actions; and at the national level, to encourage States to adopt national policies and ensure that all treaties to which they have become party are implemented by ensuring the adoption of necessary legislation and measures.

16. In this spirit, the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (the Consultative Process) was established in 1999 to deepen the debate in the General Assembly and to contribute to a broader understanding of the issues covered by the report of the Secretary-General on oceans and the law of the sea, as well as to further strengthen the coordination and cooperation in ocean affairs at the international and inter-agency levels. The first meeting of the Consultative Process in 2000 offered a new opportunity to seek solutions in a concerted manner and constituted a major milestone in ocean affairs.

II. The United Nations Convention on the Law of the Sea and its implementing Agreements

A. Status of the Convention and its implementing Agreements

17. In its resolution 55/7 of 30 October 2000, the General Assembly stressed the importance of increasing the number of States parties to the Convention and the Agreement relating to the implementation of Part XI of the Convention in order to achieve the goal of universal participation. The pace of deposit of instruments of ratification or accession has slowed down noticeably: since the last report (A/55/61) was issued, only three States have deposited their instruments of ratification (Nicaragua, Maldives and Luxembourg). The total number of States parties, including one international organization, currently stands at 135 (see annex I). The General Assembly also reiterated the call upon all States that had not done so to become parties to these instruments. Of the coastal States, the following 32 are not yet parties to the Convention: 6 States in the African region (Congo, Eritrea, Liberia, Libyan Arab Jamahiriya, Madagascar and Morocco); 13 States in the Asian and Pacific region (Bangladesh, Cambodia, Democratic People's Republic of Korea, Iran (Islamic Republic of), Israel, Kiribati, Niue, Qatar, Syrian Arab Republic, Thailand, Turkey, Tuvalu and United Arab Emirates); 7 States in Europe and North America (Albania, Canada, Denmark, Estonia, Latvia, Lithuania and United States of America) and 6 States in the Latin American and Caribbean region (Colombia, Dominican Republic, Ecuador, El Salvador, Peru and Venezuela). As far as the landlocked States are concerned, 27 States should also consider responding to the call by the General Assembly, in view of the importance of the provisions of Part X of UNCLOS for them. These States are: Afghanistan, Andorra, Armenia, Azerbaijan, Belarus, Bhutan, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Holy See, Hungary, Kazakhstan, Kyrgyzstan, Lesotho, Liechtenstein, Malawi, Niger, Republic of Moldova, Rwanda, San Marino, Swaziland, Switzerland, Tajikistan, Turkmenistan and Uzbekistan.

18. The Agreement relating to the implementation of Part XI of UNCLOS was adopted on 28 July 1994 (General Assembly resolution 48/263) and entered into force on 28 July 1996. The Agreement is to be interpreted and applied together with UNCLOS as a single instrument, and in the event of any inconsistency between the Agreement and Part XI of UNCLOS, the provisions of the Agreement shall prevail. After 28 July 1994, any ratification of or accession to UNCLOS represents consent to be bound by the Agreement as well. Furthermore, no State or entity can establish its consent to be bound by the Agreement unless it has previously established or establishes concurrently its consent to be bound by UNCLOS.

19. One hundred States parties to UNCLOS are parties to the Agreement relating to the implementation of Part XI, including those which ratified UNCLOS in 2000 (see annex I). That year, the Agreement was also ratified by Indonesia, already a State party to UNCLOS. A number of other such States which became States parties to the Convention prior to the adoption of the Agreement on Part XI have yet to express their consent to be bound by the Agreement. These States which continue to apply the Agreement de facto are: Angola, Antigua and Barbuda, Bahrain, Bosnia and Herzegovina, Botswana, Brazil, Cameroon, Cape Verde, Comoros, Costa Rica, Cuba, Democratic Republic of the Congo, Djibouti, Dominica, Egypt, Gambia, Ghana, Guinea-Bissau, Guyana, Honduras, Iraq, Kuwait, Mali, Marshall Islands, Mexico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Somalia, Sudan, Tunisia, Uruguay, Viet Nam and Yemen.

20. Regarding the 1995 Agreement for the implementation of the provisions of UNCLOS relating to the conservation and management of straddling fish stocks and highly migratory fish stocks (1995 Fish Stocks Agreement), 27 States have deposited their instruments of ratification or accession, most recently Brazil and Barbados (see annex I). Only three more instruments are needed for the entry into force of the Agreement. Although the Agreement provides, in its article 41, for the possibility of its provisional application, no State or entity has notified the depositary of its wish to do so.

B. Declarations and statements under articles 310 and 287 of UNCLOS

21. Among States which have ratified UNCLOS in 2000, Nicaragua made a declaration under article 310 of UNCLOS, stating, inter alia, that it did not consider itself bound by any of the declarations or statements made by other States with respect to UNCLOS and that it reserved the right to state its position on any of those declarations or statements at any time; and that ratification of UNCLOS does not imply recognition or acceptance of any territorial claim made by a State party to the Convention, nor automatic recognition of any land or sea border. Nicaragua further declared that, in accordance with article 287, paragraph 1, of UNCLOS, it accepted only recourse to the International Court of Justice (ICJ) as a means for the settlement of disputes concerning the interpretation or application of UNCLOS.

22. Thus, declarations upon ratification, accession or formal confirmation of UNCLOS have been made by 49 States and the European Community. All declarations and statements with respect to UNCLOS and to the Agreement relating to the implementation of Part XI of UNCLOS made before 31 December 1996 have been analysed and reproduced in a United Nations publication in the Law of the Sea series;[3] full texts of those made after that date have been circulated to Member States in depositary notifications and have been published in *Law of the Sea Bulletins*, Nos. 36-44. They are also available at the web site of the Division for Ocean Affairs and the Law of the Sea of the United Nations Office of Legal Affairs (www.un.org/Depts/los) as well as that of the Treaty Section of the United Nations (www.un.org/Depts/Treaty). The information concerning the choice of procedure, as provided for in article 287, is reflected, among others, in Law of the Sea Information Circular No. 13.

23. In resolution 55/7, the General Assembly called again upon States to ensure that any declarations or statements that they had made or would make when signing, ratifying or acceding to UNCLOS were in conformity therewith and, otherwise, to withdraw any of their declarations or statements that were not in conformity. Categories of declarations and statements generally considered not to be in conformity with articles 309 (prohibiting reservations) and 310 are listed in paragraph 16 of the 1999 report on oceans and the law of the sea (A/54/429).

24. Since the most recent report was issued, no States have made a declaration or statement pursuant to article 43 of the 1995 Fish Stocks Agreement.

C. Meeting of States Parties (Tenth Meeting)

25. In accordance with UNCLOS article 319 (2) (e), the Secretary-General of the United Nations shall convene necessary meetings of States Parties to the Convention. A total of 10 such meetings have been convened thus far since the first meeting was held in November 1994 following the entry into force of UNCLOS. The issues dealt with by the meetings have primarily been the election of the judges of the International Tribunal for the Law of the Sea and of the

members of the Commission on the Limits of the Continental Shelf; the consideration and approval of the budget of the Tribunal; and other administrative matters of the Tribunal. The Tenth Meeting was held from 22 to 26 May 2000.[4]

26. *Budget of the Tribunal for 2001*. The budget of the Tribunal approved by the Meeting of States Parties amounts to a total of $8,090,900 (see SPLOS/56).

27. *Financial Regulations*. Some hard-core issues on the Financial Regulations of the Tribunal still remain to be agreed upon, and in view of the many proposals and suggestions emanating from delegations it was decided that a draft revision of the Financial Regulations, taking into account the various proposals put forward by delegations and the outcome of the discussions during the Ninth and Tenth Meetings, is to be prepared by the Secretariat and the Tribunal for the Eleventh Meeting of States Parties. Among the proposals that generated considerable discussion was the presentation of the draft budget of the Tribunal under a "split-currency system" and the contributions to be made by the international organizations that are States parties to UNCLOS.

28. Discussions continued on rule 53 (Decisions on questions of substance (SPLOS/2/Rev.3)) and focused on the proposal that decisions on budgetary and financial matters should be taken by a three-fourths majority of States parties present and voting, provided that such majority included States parties contributing at least three fourths of the expenses of the Tribunal and a majority of the States parties participating in the Meeting. While some delegations supported the proposal, others were of the view that such a provision would amount to weighted voting in violation of the principle of equality followed by the United Nations and its organs. Since the Meeting failed to produce a generally acceptable solution on the issue, it was decided to pursue the matter further during the Eleventh Meeting.

29. *The 10-year deadline under article 4 of Annex II to UNCLOS*. Another of the issues discussed at the Tenth Meeting of States Parties related to UNCLOS article 76 and article 4 of Annex II. Article 4 of Annex II to UNCLOS places a 10-year deadline on a coastal State which intends, from the entry into force of the Convention for that State, to establish the outer limits of its continental shelf. However, owing to the difficulties faced by certain States, particularly developing States, in complying with the time limit, the Meeting decided that the topic was to be included in its agenda for the Eleventh Meeting and requested the Secretariat to prepare a background paper on the matter (see paras. 70-74).

30. *Role of the Meeting of States Parties with respect to the implementation of UNCLOS*. Various views were expressed on the proposal to include in the agenda of the Eleventh Meeting of States Parties the item "Implementation of UNCLOS" or "Issues of a general nature related to UNCLOS" (SPLOS/CRP.22). Suggestions were made to the effect that the Meeting of States Parties should receive an annual report from the Secretary-General of the United Nations on issues of a general nature that had arisen with respect to the Convention pursuant to its article 319. It was also suggested that the Meeting should be informed annually on the work of the Commission on the Limits of the Continental Shelf and of the International Seabed Authority.

31. In that connection, a number of delegations were of the view that the mandate of the Meeting of States Parties should not be expanded beyond the budgetary and administrative matters of the Tribunal. It was argued that the proposed report by the Secretary-General referred to in article 319 of UNCLOS was referred to in General Assembly resolution 49/28, in which the Secretary-General was requested to prepare a comprehensive report for the consideration of the General Assembly on developments relating to the law of the sea, which, inter alia, could also serve as a basis for report to all States Parties to the Convention.

32. In reply, the view was expressed that the Meeting of States Parties was the only competent body responsible for taking decisions on issues relating to the implementation of UNCLOS and its role should not be confined to dealing with the budgetary and administrative issues of the Tribunal and that therefore certain issues pertaining to the implementation of UNCLOS should be discussed by the Meeting. Some delegations alluded to the Consultative Process as a body where some of the concerns raised could be addressed. The relationship between the Consultative Process and the Meeting of States Parties was noted as being complementary in that the Meeting of States Parties could consider issues relating to the implementation of UNCLOS while the Consultative Process was meant to promote international

cooperation and coordination within the framework of the Convention.

33. On account of the divergent opinions expressed, the Meeting decided to include in its agenda for the Eleventh Meeting the topic "Matters related to article 319 of UNCLOS".

34. *Trust funds*. The Tenth Meeting of States Parties decided to recommend to the General Assembly the establishment of a voluntary trust fund, similar to the trust fund established for ICJ, to provide States with financial assistance in proceedings before the International Tribunal for the Law of the Sea. Accordingly, the General Assembly requested the Secretary-General to establish the trust fund.[5]

35. The Meeting also decided to recommend the establishment of two other trust funds relating to the work of the Commission on the Limits of the Continental Shelf. Therefore, the General Assembly requested the Secretary-General to establish such funds[6] (see paras. 65-69).

36. *Other matters*. The Meeting took note of an oral progress report presented by the Secretary-General of the International Seabed Authority on its work. In addition, a proposal was put forward that, in the light of the provisions of UNCLOS on the establishment of regional marine scientific and technological research centres, consideration should be given to the establishment of an African institute for the oceans. The Meeting decided to include this item in the agenda of its Eleventh Meeting.

37. The Eleventh Meeting of States Parties to UNCLOS will be held in New York from 14 to 18 May 2001. It will have on its Agenda, inter alia, the following items: (a) annual report of the International Tribunal for the Law of the Sea covering the calendar year 2000; (b) draft budget of the Tribunal for 2002; (c) draft Financial Regulations of the Tribunal; (d) external audit report and financial statement for 1999; (e) Rules of Procedure of the Meetings of States Parties, in particular, the rules dealing with decisions on questions of substance (rule 53), including the establishment of a finance committee; (f) matters related to article 319 of UNCLOS; and (g) issues with respect to article 4 of Annex II to the Convention.

38. The Eleventh Meeting will also deal with the election of one judge to fill the vacancy created by the demise of Judge Lihai Zhao (China), who passed away on 10 October 2000. The newly elected judge will serve the remainder of Judge Lihai Zhao's term of six years, which will expire in September 2002.

III. Maritime space

A. Recent developments

39. The developments relating to State practice during the period under review were, generally, a positive reconfirmation of the wide degree of acceptance of UNCLOS by States. Several States have adopted new legislation or amended the existing laws, taking into account UNCLOS provisions. It seems, however, that a considerable number of other States, including States parties to UNCLOS, still need to address more efficiently the issue of harmonization of their national legislation with UNCLOS provisions and thus respond positively to the calls by the General Assembly, as contained in paragraph 3 of resolution 55/7. In this connection, the Secretary-General wishes to invite States parties to UNCLOS to communicate the information concerning steps undertaken by them in this respect. An analysis of the information received would then appear in the next report as an overall assessment of the implementation of UNCLOS 20 years after its adoption.

40. During the reporting period, a number of important developments have been brought to the attention of the Division for Ocean Affairs and the Law of the Sea. Among them were, in Europe and North America, the establishment by Belgium and the Netherlands of their exclusive economic zones, by, respectively, the Act concerning the exclusive economic zone of Belgium in the North Sea, 22 April 1999, and the Act of 27 May 1999 establishing an exclusive economic zone of the Kingdom of Netherlands, together with the Decree of 13 March 2000 determining the outer limits of the exclusive economic zone of the Netherlands and effecting the entry into force of that Act. The Division also received copies of the following legislation: the Norwegian Act of 29 November 1996, No. 72, relating to petroleum activities; the Law on the internal waters, the territorial sea and the contiguous zone of the Russian Federation of 31 July 1998; the Law of the Russian Federation on the exclusive economic zone of 17 December 1998; the Act by Belgium on protection of the marine environment and ocean space under Belgian

jurisdiction dated 20 January 1999; and the United States of America's Oceans Act of 2000. In the Latin American and Caribbean region, Honduras adopted the Maritime Areas of Honduras Act, by means of Legislative Decree 172-99, dated 30 October 1999, and enacted its baselines by Executive Decree No. PCM 007-2000 of 21 March 2000. Certain elements of this legislation of Honduras were protested bilaterally by Guatemala, Nicaragua and El Salvador.[7] In the Asia and the Pacific region, Australia enacted, on 29 August 2000, a Proclamation under the Seas and Submerged Lands Act 1973.

41. The delimitation of maritime boundaries has certainly become an important element of the practice of States in the modern law of the sea. The following agreements concerning the delimitation of maritime boundaries were received by the Division or adopted during the reporting period: (a) in Africa, the Agreement of 29 August 2000 between Nigeria and Sao Tome and Principe over the contending issue of delimitation of their common maritime boundary, the Treaty of 23 September 2000 between Nigeria and Equatorial Guinea concerning their maritime boundary; (b) in Asia and the Pacific, the Maritime Agreement between Oman and Pakistan (providing for the delimitation of maritime boundaries) signed on 11 June 2000, the Agreement between Kuwait and Saudi Arabia on the delimitation of the continental shelf, signed on 2 July 2000, the Treaty on the final and permanent international land and sea borders between the Kingdom of Saudi Arabia and the Republic of Yemen of 12 June 2000, and the Agreement between China and Viet Nam on delimitation of the territorial sea in the Gulf of Tonkin, concluded in December 2001; (c) in the European region, a Protocol between the Government of the Republic of Turkey and the Government of Georgia on the confirmation of the maritime boundaries between them in the Black Sea, concluded on 14 July 1997; Additional Protocol to the Agreement of 28 May 1980 between Norway and Iceland concerning fishery and continental shelf questions and the Agreement derived therefrom of 22 October 1981 on the continental shelf between Jan Mayen and Iceland of 11 November 1997; Additional Protocol to the Agreement of 18 December 1995 between the Kingdom of Norway and the Kingdom of Denmark concerning the Delimitation of the Continental Shelf in the Area between Jan Mayen and Greenland and the Boundary between the Fishery Zones in the Area, also of 11 November 1997; and (d) in North America, the Treaty between the Government of the United States of America and the Government of the United Mexican States on the Delimitation of the Continental Shelf in the Western Gulf of Mexico beyond 200 Nautical Miles, of 9 June 2000.

42. While an important number of maritime boundary delimitation agreements have already been concluded, providing a wealth of State practice, it is estimated that approximately 100 maritime boundary delimitations throughout the world still await some form of resolution by peaceful means. Some recent developments demonstrate that the delimitation of maritime boundaries remains in a number of instances one of the most sensitive issues in the relations between neighbouring States, with a potential impact on peace and security.

43. Among unresolved maritime boundary delimitations brought to the attention of the Division through the world media, the following could be mentioned: (a) in Africa: Morocco and Spain's Canary Islands; (b) in Asia: China and Japan, Iran (Islamic Republic of) and Kuwait; (c) in Latin America and the Caribbean: Barbados and Trinidad and Tobago, Cuba and Honduras, Guyana and Suriname, Guyana and Venezuela; and (d) in Europe: Romania and Ukraine in the Black Sea, and Russian Federation and Ukraine in the Strait of Kerch. It appears that in some of those cases, a certain degree of progress has been reached in the negotiations.

44. The Government of Iraq protested against the delimitations between Kuwait and Saudi Arabia,[8] stating that any agreement that did not take into consideration Iraq's legitimate rights, in accordance with international law and UNCLOS, could not be legally binding on Iraq, and Iraq would not recognize it. With respect to the delimitation between Kuwait and the Islamic Republic of Iran, Iraq added that its legal stand applied to any agreement that would be concluded and that any delineation of the continental shelf in the area should be reached through an agreement among all countries possessing sovereign rights on the continental shelf, including Iraq, to explore and invest their natural resources, with the aim of reaching a fair solution on the basis of article 83 of UNCLOS.

45. In another development related to delimitation, the Government of Malta informed the Division that it

had received information that the authorities of the Libyan Arab Jamahiriya and Tunisia had announced the issuance of the offshore acreage for oil exploration in areas considered to be within Malta's continental shelf and under its jurisdiction for the purpose of oil exploration and exploitation. Malta had brought the issue to the attention of major oil companies.

46. In view of some of these latest developments, the Secretary-General wishes to emphasize that the delimitation of maritime boundaries shall be reached by agreement, preferably obtained through negotiations. The overall benefits of an agreement negotiated on the basis of international law and in a spirit of understanding and cooperation among States involved cannot be overstated.

47. To facilitate the negotiating process to which States with adjacent or opposite coasts will have to resort in case of overlapping claims, the Division for Ocean Affairs and the Law of the Sea has prepared a *Handbook* on the delimitation of maritime boundaries.[9] The *Handbook* presents legal, technical and practical information deemed essential in negotiating maritime boundary delimitation agreements between coastal States. It also contains information concerning the peaceful settlement of disputes in case the negotiations are unsuccessful.

48. The Division continues to publish all newly obtained legislation and delimitation treaties in the *Law of the Sea Bulletin*, which appears periodically, three times per year.

B. Summary of national claims to maritime zones

49. The statistics about national claims presented in the table entitled "Summary of national claims to maritime zones" (see annex II) remain basically unchanged during the reporting period (see A/54/429, paras. 85-87), apart from a few adjustments. Those adjustments were made to take into account legislation and other relevant information communicated to the Division during the past year. The table of claims to maritime jurisdiction itself represents a review of information published in *Law of the Sea Bulletin* No. 39 in 1998. Despite extensive research, however, the table may not always reflect the latest developments, owing to the lack of regular updates from Governments.

50. Regarding claims with respect to the continental shelf, it should be noted that their status may appear in certain cases rather ambiguous, especially where the claims and legislation were initially based on the Convention on the Continental Shelf, adopted at Geneva on 29 April 1958, and where the State concerned subsequently became a State party to UNCLOS.

51. The table reflects the fact that the rights of a coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation. It highlights the discrepancies that seem to exist between claims as reflected in national legislation and the entitlements under the 1982 Convention, which, pursuant to its article 311, paragraph 1, prevails, as between States parties, over the 1958 Geneva Conventions. Consequently, States parties to UNCLOS concerned may wish to review their legislation on the continental shelf and bring it into harmony with the provisions of current international law.

C. Continental shelf beyond 200 nautical miles and the work of the Commission on the Limits of the Continental Shelf

52. *Work of the Commission on the Limits of the Continental Shelf.* The Commission has held eight sessions since it was established in June 1997. Those sessions were devoted both to preparing the Commission for the receipt of submissions from coastal States and to producing materials to assist States in the preparation of their submissions. The ninth session of the Commission will be held in New York from 21 to 25 May 2001.

53. More detailed information regarding the work of the Commission can be found in the recent annual reports of the Secretary-General (A/55/61, paras. 25-29; A/54/429, paras. 55-69; A/53/456, paras. 55-69; A/52/487, paras. 43-53; and A/51/645, paras. 77-84).[10]

54. The Commission has produced three basic documents to date: its rules of procedure (CLCS/3/Rev.3), of which the provisions on confidentiality were extensively revised at the eighth session from the previous version of the rules; its modus operandi (CLCS/L.3); and its Scientific and Technical Guidelines (CLCS/11 and Add.1). The Guidelines are intended to provide assistance to coastal

States with regard to the technical nature and scope of the data and information which they are expected to submit to the Commission. The annexes to the Guidelines include, inter alia, flowcharts providing a simplified outline of the procedures described in the relevant parts of the Guidelines themselves.

55. The highly complex nature of the Guidelines, which deal with geodetic, geological, geophysical and hydrographic methodologies stipulated in article 76 for the establishment of the outer limits of the continental shelf, using such criteria as determination of the foot of the continental slope, sediment thickness and types of sea floor highs, led the Commission to take two important steps to assist coastal States in applying them: the first was to hold an open meeting, since the Commission generally meets in private (closed) session owing to the nature of its mandate as a scientific and technical expert body; and the second, to design an outline for a five-day training course.

56. The seventh session of the Commission was held in New York from 1 to 5 May 2000. The first day of the session was devoted to an open meeting, aimed at flagging the most important and challenging issues related to the establishment of the continental shelf beyond 200 miles, in accordance with the legal and scientific requirements of article 76 of the Convention. The meeting was also intended to give a general indication to policy makers and legal advisers of the benefits that a coastal State might derive from the valuable resources of the extended continental shelf and to explain to experts in marine sciences involved in the preparation of submissions how the Commission considered that its Scientific and Technical Guidelines should be applied in practice.

57. At the open meeting, the Chairman of the Commission emphasized that the importance of the resources to be derived from the continental shelf were enormous and that in future the shelf area would be the main source of world oil and gas supplies. Offshore oil production in 2000 was estimated at 1.23 billion tons, and natural gas at 650 billion cubic metres. The effect of the provisions of the Convention on the continental shelf was that practically all seabed oil and natural gas resources would fall under the control of coastal States.

58. Approximately 100 government officials, members of intergovernmental organizations, legal advisers and experts in marine sciences related to the establishment of an extended continental shelf attended the meeting.

59. Several other activities were also undertaken at the seventh session in connection with the issue of training. A review of existing training projects and capacities within the United Nations system was presented to the Commission. Approaches were also made to explore the relevance of certain programmes of the Intergovernmental Oceanographic Commission and the International Hydrographic Organization to the scientific provisions of article 76. The possibility that these organizations may also be in a position to address the training needs of developing States is still being explored.

60. Although no submissions have yet been received, the Commission is aware that the process of preparing a submission is at an advanced stage in some coastal States.

61. At its eighth session, held in New York from 31 August to 4 September 2000, the Commission concentrated primarily on the issue of training with a view to aiding States, especially developing States, to further develop the knowledge and skills for preparation of a submission in respect of the outer limits of the continental shelf provided for by the Convention. A basic flowchart for preparation of a submission to the Commission was designed (CLCS/22). In the context of its responsibilities to provide advice to coastal States, the Commission also prepared an outline for a training course of approximately five days' duration, aimed at practitioners who would take part in the preparation of the submission of a coastal State (CLCS/24). It is not part of the mandate of the Commission to conduct or organize training, though members may be involved in their personal capacity. However, the suggested course could be developed and delivered by interested Governments and/or international organizations and institutions possessing the necessary facilities and pedagogic and subject expertise.

62. The aim of the outline developed by the Commission is to facilitate the preparation of submissions in accordance with the letter and spirit of the Convention, as well as with the Guidelines of the Commission. It is expected that courses offered using a standard outline would help ensure a uniform and consistent practice in the preparation of submissions to the Commission.

63. The intended participants in such courses should be from among professionals in geophysics, geology, hydrography and geodesy, as well as others who would be involved in preparing a submission to the Commission; the minimum prerequisite for participants would be a bachelor's degree or the equivalent.

64. Courses could be adapted to the particular needs of coastal States at the regional level, which would have several practical advantages. First, offering courses to be held in, and designed for, specific regions would be cost-effective for developing countries in the region. Secondly, such courses may take into account the wide variety of types of continental margins in different areas of the oceans, as well as the ways of applying the criteria contained in the Convention.

65. *Establishment of voluntary trust funds.* Four voluntary trust funds were established by the General Assembly in its resolution 55/7 (paras. 9, 18, 20 and 45). Two are related to the establishment of an extended continental shelf in accordance with the provisions of article 76 of the Convention.

66. The first trust fund was established based upon a request by the Commission to the Tenth Meeting of States Parties, which decided in turn to recommend to the General Assembly the establishment of the fund so that members of the Commission from developing countries might participate more fully in the work of the Commission. The fund would cover travel expenses and provide a daily subsistence allowance for those members of the Commission nominated by developing States which requested such assistance. This decision was taken notwithstanding the provision of Annex II to the Convention which requires the State party nominating a member of the Commission to defray the member's expenses while in performance of Commission duties (SPLOS/58).

67. The second fund was established by the General Assembly also upon the recommendation of the Tenth Meeting of States Parties. Its purpose is: (a) to provide assistance to States parties to meet their obligations under article 76 of the Convention, and (b) to provide training to countries, in particular, the least developed among them and small island developing States, for preparing submissions to the Commission with respect to the outer limits of the continental shelf beyond 200 nautical miles, as appropriate (SPLOS/59). During the most recent regular session of the General Assembly, Norway pledged US$ 1 million to the fund (see A/55/PV.42), and the United Nations has already taken steps required for its establishment. In resolution 55/7, not only States, but also intergovernmental organizations and agencies, national institutions, non-governmental organizations and international financial institutions, as well as natural and juridical persons are called upon to make voluntary financial or other contributions to the fund. The impending deadline for submissions to the Commission of November 2004 for many developing States has lent a sense of urgency to the establishment and use of this fund.

68. One of the uses of the fund may be to provide both training to the appropriate technical and administrative staff of the coastal State making a submission to enable them to perform initial desktop studies and project planning, and to prepare the final submission documents when the necessary data have been acquired. It may be used as well to provide for advisory assistance or consultancies, if needed. The data acquisition campaigns themselves, however, are not the object of the fund.

69. The submission documents must be prepared in conformity with the provisions of article 76 and Annex II to the Convention (and for some States, Annex II of the Final Act) and the Scientific and Technical Guidelines of the Commission. The training provided should take these requirements into account and should aim at enabling the submitting State's personnel to prepare most of the required documents themselves. The preparation of the submission may entail other costs that may also be met through the fund (e.g. software and hardware equipment, technical assistance, etc.)

70. *Deadline for submissions to the Commission.* At the Tenth Meeting of States parties, a discussion took place with regard to the issue of the 10-year time limit under article 4 of Annex II to the Convention (see para. 29). It was pointed out that certain countries, particularly developing countries, might have difficulties in complying with the 10-year time limit, especially in view of their limited technical expertise. General agreement was expressed with regard to the difficulty of complying with the 10-year time limit.

71. In fact, for 14 of the 30 States originally identified in 1978 as appearing to meet the legal and geographic requirements to take advantage of the provisions of article 76 regarding an extended continental shelf, the deadline will fall in November

2004. Those States are: Angola, Australia, Brazil, Fiji, Guinea, Guyana, Iceland, Indonesia, Mauritius (4 December 2004), Mexico, Micronesia (Federated States of), Namibia, Seychelles and Uruguay.

72. The Meeting of States parties decided to include on the agenda for the Eleventh Meeting (14-18 May 2001), an item entitled "Issues with respect to article 4 of Annex II to the United Nations Convention on the Law of the Sea" and requested the Secretariat to prepare a background paper for that discussion (SPLOS/60, para. 62) (see para. 29).

73. According to article 2, paragraph 2, of Annex II to the Convention, the initial election for the members of the Commission should have taken place "within 18 months after the date of entry into force of this Convention", that is, by 16 May 1996. However, at the Third Meeting of States Parties to the Convention, in 1995, it was decided that the election of members of the Commission would be postponed until March 1997, in order to give an opportunity for additional States to become parties to the Convention and to nominate candidates for the Commission. In fact, during the period of the postponement, 31 additional countries acceded to the Convention, and 8 among them nominated candidates who were elected and are currently serving. A proviso was agreed upon that, should any State which was already a party to the Convention by 16 May 1996 (i.e., 18 months after the entry into force of the Convention) be affected adversely in respect of its obligation to make its submission to the Commission *within 10 years after the entry into force of the Convention for that State* (Annex II, article 4, emphasis added), States parties to the Convention, at the request of such a State, would review the situation with a view to ameliorating the difficulty in respect of that obligation (SPLOS/5, para. 20). The election of the 21 members of the Commission was held on 13 March 1997. The Government of the Seychelles has already submitted a request to the Meeting of States Parties to postpone its deadline based on the above proviso.

74. Although the time period during which submissions should be made to the Commission will be under consideration at the Eleventh Meeting of States Parties, and may be extended, the existing cut-off date, in line with the existing rule, is still 10 years from the entry into force of the Convention for the submitting State.

75. *International activities regarding the extended continental shelf. (i) International Conference on technical aspects of maritime boundary delineation and delimitation, including the issues relevant to the provisions on the continental shelf contained in the United Nations Convention on the Law of the Sea (Monaco, 7, 9 and 10 September 1999).* The International Hydrographic Bureau hosted in Monaco in September 1999 the International Conference on technical aspects of maritime boundary delineation and delimitation, including UNCLOS article 76 issues, sponsored by ABLOS.[11]

76. Seventy-six participants from 29 countries attended the Conference. Several members of the Commission on the Limits of the Continental Shelf also participated. The Conference Proceedings containing the 26 papers presented have been published by the International Hydrographic Bureau.[12]

77. The Conference was divided into four sessions over a period of two days. Topics related to the approach of the Commission on the Limits of the Continental Shelf to submissions made by coastal States were considered in contributions presented by several members of the Commission in their personal capacities during the first session. Discussions included the mandate and work of the Commission to date; a review of the continental margins of the world; preparation of desktop studies; uncertainties and errors in sediment thickness; and an update of coastal States which might potentially be included in the category of wide continental margin States, and the elements for inclusion in submissions by coastal States.

78. The remainder of the sessions were devoted to: "geodetic issues, with emphasis on errors in maritime boundaries and how to reduce them", dealing specifically with geodetic problems in the delineation and delimitation of maritime boundaries; "tools needed for boundary delimitations", concerning the hardware and software that would be necessary to obtain the data to substantiate the establishment of an extended continental shelf; and "other issues and case studies", which discussed specific issues and presented case studies, only some of which were related to article 76.

79. *(ii) "Continental Shelf — Buenos Aires 2000" Workshop (Buenos Aires, 13-17 November 1999).* The issue of the establishment of an extended continental shelf was recently discussed at a workshop in Buenos

Aires, which was attended by a number of well-known specialists on the subject of the continental shelf.

80. The purpose of the workshop was to exchange viewpoints, illustrate various methodologies, analyse resources and present relevant studies carried out to date. Papers were presented by several members of the Commission and its Secretary. Presentations were also made by several experts engaged in preparing for the establishment of the extended continental shelf in their own countries. The members of the Technical Subcommittee of the Argentine Commission on the determination of the outer limit of the continental shelf also participated in the Workshop.

81. *Workshops and symposiums to be held in 2001.* A five-day training course on delineation of the outer limits of the continental shelf beyond 200 nautical miles in accordance with UNCLOS, and on practical aspects of completing a submission to the Commission on the Limits of the Continental Shelf was scheduled to be held in Southampton, United Kingdom, from 26 to 30 March 2001. It was to be offered jointly by the Southampton Oceanography Centre and the Hydrographic Office of the United Kingdom. The course represents a modification of the core training programme published by the Commission on the Limits of the Continental Shelf (CLCS/24).

82. A Symposium on Marine Geophysics is scheduled to take place during the next International Congress of the Brazilian Geophysical Society, to be held at Salvador de Bahia from 28 October to 1 November 2001. Among the subjects on which papers are to be presented are the deep-sea structures in the South Atlantic, the continental/oceanic crust boundary, sedimentary processes in the South Atlantic Ocean basin, slope stability and studies on submarine hazards to offshore structures.

D. Deposit of charts and/or lists of geographical coordinates and compliance with the obligation of due publicity

83. Coastal States, under article 16, paragraph 2, article 47, paragraph 9, article 75, paragraph 2, and article 84, paragraph 2, of UNCLOS, are required to deposit with the Secretary-General of the United Nations charts showing straight baselines and archipelagic baselines as well as the outer limits of the territorial sea, the exclusive economic zone and the continental shelf; alternatively, the lists of geographical coordinates of points, specifying the geodetic datum, may be substituted. Coastal States are also required to give due publicity to all these charts and lists of geographical coordinates. Furthermore, under article 76, paragraph 9, coastal States are required to deposit with the Secretary-General charts and relevant information permanently describing the outer limits of the continental shelf extending beyond 200 nautical miles. In this case, due publicity is to be given by the Secretary-General. Together with the submission of their charts and/or lists of geographical coordinates, States parties are required to provide appropriate information regarding original geodetic datum.

84. In this connection, it should be noted that the deposit of charts or of lists of geographical coordinates of points with the Secretary-General of the United Nations is an international act by a State party to UNCLOS in order to conform with the deposit obligations referred to above, after the entry into force of UNCLOS. This act is addressed to the Secretary-General in the form of a note verbale or a letter by the Permanent Representative to the United Nations or other person considered as representing the State party. The mere existence or adoption of legislation or the conclusion of a maritime boundary delimitation treaty registered with the Secretariat, even if they contain charts or lists of coordinates, cannot be interpreted as an act of deposit with the Secretary-General under the Convention.

85. In resolution 55/7, the General Assembly once again encouraged States parties to the Convention to deposit with the Secretary-General such charts and lists of geographical coordinates. So far, only 24 States have fully or partially complied with their deposit obligations (see annex III).

86. Acting upon the request contained in General Assembly resolution 49/28 of 6 December 1994, the Division for Ocean Affairs and the Law of the Sea, as the responsible substantive unit of the United Nations Secretariat, has established facilities for the custody of charts and lists of geographical coordinates deposited and for the dissemination of such information in order to assist States in complying with their due publicity obligations. In this connection, States parties are encouraged to provide all the necessary information for conversion of the submitted geographic coordinates from the original datum into the World Geodetic

System 84 (WGS 84), a geodetic datum system that is increasingly being accepted as the standard and is used by the Division to produce its illustrative maps.

87. The Division has also established a Geographic Information System (GIS). GIS enables the Division to store and process geographic information and produce custom-tailored cartographic outputs through the conversion of conventional maps, charts and lists of geographical coordinates in digital format. GIS also helps the Division to identify any inconsistencies in the information submitted. The GIS database is connected with the National Legislation/Delimitation Treaties database, which facilitates retrieval of relevant information on certain geographic features.

88. The Division has also sought to assist States in fulfilling their other obligations of due publicity established by UNCLOS. These obligations relate to all laws and regulations adopted by the coastal State relating to innocent passage through the territorial sea (article 21 (3)) and all laws and regulations adopted by States bordering straits relating to transit passage through straits used for international navigation (article 42 (3)). During the reporting period, Ukraine submitted a copy of the Regulations on the Customs Control over the Transit of Foreign-going Vessels through the Customs Border of Ukraine, adopted by Resolution No. 283 of 29 June 1995 of the State Customs Committee of Ukraine and registered under No. 217/783 of 12 July 1995 by the Ministry of Justice of Ukraine (published in *Law of the Sea Bulletin* No. 44).

89. The Division informs States parties to UNCLOS of the deposit of charts and geographical coordinates through a "maritime zone notification". The notifications are subsequently circulated to all States by means of the periodic publication entitled Law of the Sea Information Circular, together with other relevant information concerning the discharge by States of the due publicity obligation. The 13 issues of the Law of the Sea Information Circular that have already been issued give ample evidence of the practice of States in this respect. The texts of the relevant legislation together with illustrative maps are then published in the *Law of the Sea Bulletin*.

90. In addition, States continue to discharge their obligations of due publicity regarding sea lanes and traffic separation schemes under articles 22, 41 and 53 of UNCLOS, inter alia, through IMO, which provides for the adoption of ships' routeing systems under SOLAS regulation V/8 and the adoption or amendment of traffic separation schemes (TSS) in rules 1 (d) and 10 of Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG). Guidelines and criteria developed by IMO for the adoption of routeing measures are contained in the IMO General Provisions on Ship's Routeing (IMO Assembly resolution A.572 (14), as amended). These measures include traffic separation schemes (TSS), two-way routes, recommended tracks, areas to be avoided, inshore traffic zones, roundabouts, precautionary areas and deep-water routes. Information on recent new and amended traffic separation schemes and associated routeing measures is contained in annex 18 to the report of the Maritime Safety Committee on its 73rd session (MSC 73/21/Add.3) (see paras. 153-155).

IV. Shipping and navigation

A. Shipping industry

91. The shipping industry has been undergoing significant changes. A technological revolution is taking place regarding the size and speed of ships. The average gross tonnage of passenger ships is now 71,140, with more than 3,100 people on board at any one time. But cruise ships of 100,000 gross tonnage with a capacity of 5,000 people on board are already a reality, and plans are under way to build ships of 450,000 gross tonnage, capable of carrying 9,600 people.[13] The carrying capacity of container ships has also increased significantly. They can now carry 8,000 boxes, and proposals have been put forward to build vessels which can transport 18,000 units. It is also expected that there will be an increasing number of high-speed craft for the movement of both passengers and freight.

92. Other areas of shipping are also experiencing major technological changes, ranging from the introduction of electronic charts (see para. 105) to the emerging role of Internet-based transportation service providers. According to UNCTAD, e-trade facilitation, the newly developed Internet technology, when combined with the vast knowledge and expertise of the shipping world, may become the centralizing environment for the complex and dispersed global industry of shipping.[14]

93. The global economics of shipping has also continued to change. By the end of 1999, the world merchant fleet had reached 799 million dead weight (dwt). The major open-registry countries expanded their tonnage substantially to a record high of 348.7 million dwt. Approximately two thirds of these fleets are owned by developed market-economy countries, and the rest by developing countries. The latter's share has continued to increase. Tonnage registered in developing countries in 1999 increased substantially to 153.6 million dwt. This increase resulted from investments made by shipowners in Asian developing countries, whose fleets now account for 73 per cent of the developing countries' total fleet. The fleets of other groups of developing countries were marginally reduced in 1999.[15]

94. A third change, which has occurred over time, is in the legal field. Most gaps in the international rules related to shipping have now been filled and the emphasis has therefore shifted to scrutinizing their implementation. For example, in the case of the International Convention on Standards of Training Certification and Watchkeeping for Seafarers (STW Convention), States have delegated to IMO the authority for assessing the implementation of the Convention.

95. *The global mandate of IMO in the field of the safety of navigation and the prevention of marine pollution from vessels.* IMO in its contribution to the present report highlighted the organization's mandate in the field of safety of navigation and the prevention of marine pollution from vessels, as follows:

> "Although IMO is explicitly mentioned in only one of the articles of UNCLOS (article 2 of Annex VIII), several provisions in the Convention refer to the 'competent international organization' to adopt international shipping rules and standards in matters concerning maritime safety, efficiency of navigation and the prevention and control of marine pollution from vessels and by dumping. In such cases the expression 'competent international organization', when used in the singular in UNCLOS, applies exclusively to IMO, bearing in mind the global mandate of the oganization as a specialized agency within the United Nations system established by the Convention on the International Maritime Organization (the 'IMO Convention').[16]
>
> "The wide acceptance and uncontested legitimacy of IMO's universal mandate in accordance with international law is evidenced by the following facts: 158 sovereign States representing all regions of the world are members of IMO; all members may participate at meetings of IMO bodies in charge of the elaboration and adoption of recommendations containing safety and anti-pollution rules and standards. These rules and standards are normally adopted by consensus; and all States, irrespective of whether they are or are not members of IMO or the United Nations, are invited to participate at IMO conferences in charge of adopting new IMO conventions. All IMO treaty instruments have so far been adopted by consensus.
>
> "At present, between 110 and 143 States (depending on the treaty) have become parties to the main IMO conventions. Since the general degree of acceptance of these shipping conventions is mainly related to their implementation by flag States, it is of paramount importance to note that States parties to these Conventions in all cases represent more than 90 per cent of the world's merchant fleet.
>
> "Adoption of new treaties, and amendments to existing ones, have been guided by adherence to the philosophy according to which rules and standards should be developed in order to prevent accidents at sea, and not in response to them. Accordingly, operational features are constantly under review in order to ensure that shipping activities conform to the highest possible safety and anti-pollution preventive regulations.
>
> "IMO attaches the highest priority to the need to ensure that its numerous rules and standards contained in these treaties are properly implemented. In order to help ensure this implementation, IMO focuses on the continuous strengthening of regulations to ensure that flag States and port States and shipowners develop their capacities and exert their responsibility to the fullest. Technical cooperation has been intensified by the operation of the Integrated Technical Cooperation Programme, aimed at ensuring that funds from different donor sources are properly channelled towards the execution of projects under the supervision of IMO as

executing agency aimed at strengthening the maritime infrastructure of developing countries.

"Against this background, the ability of IMO to provide a prompt response to the consequences of a maritime accident was tested in 2000 in both the safety and the environmental fields by the sinking of the tanker *Erika* off the west coast of France. While the main IMO bodies considered improving existing rules and standards contained in IMO treaties, the issue was raised whether action to regulate international shipping might be taken regionally or unilaterally. In response, the Secretary-General reaffirmed IMO's global mandate by restating the firm position that IMO should, always and without exception, be regarded as the only forum where safety and pollution prevention standards affecting international shipping should be considered and adopted. Regional, let alone unilateral, application of national requirements to foreign flag ships which go beyond IMO standards would be detrimental to international shipping, the international regulatory regime, and to IMO itself, and should therefore be avoided."[17]

B. Navigation

96. UNCLOS sets out in article 94 the necessary measures which a flag State must take for its ships to ensure safety at sea. Ships must conform to generally accepted international regulations, procedures and practices governing construction, equipment and seaworthiness and be surveyed before registration and thereafter at appropriate intervals. The flag State must take into account the applicable international instruments governing the manning of ships, labour conditions and the training of crews. It is responsible for ensuring that the master, officers and crew on board observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction and control of pollution and the maintenance of communications.

97. There is a clear link between the observance of rules regarding the safety of ships, the transport of cargo, the safety of navigation and the prevention of pollution from ships. This was also emphasized at the first meeting of the Consultative Process, where the need was identified to keep under review ongoing work on different outstanding issues relating to pollution from ships (e.g., implementation of relevant international legal instruments, the transport of cargo, safety rules, routeing rules, reflagging), given the importance of the social, economic and environmental impacts of these issues (A/55/274, part A, para. 29).

98. Coastal States also have a responsibility with regard to ensuring that routes within their maritime zones are safe for navigation. A recent incident involving a vessel carrying a cargo of 29,500 tonnes of unleaded gasoline which developed a structural problem but was denied access to the ports of a number of States has raised the question of whether coastal States also have a duty to provide access to their ports to a vessel in distress. The IMO Working Group on Oil Tanker Safety and Environmental Matters, which met from 28 November to 1 December 2000, said that IMO should examine the need to establish principles for coastal States, acting either individually or on a regional basis, to review their contingency arrangements regarding the provision of ports of refuge, taking into consideration national sovereignty rights. The identified areas of refuge should have arrangements in place to allow ships in distress to take refuge.[18]

1. Safety of ships

99. It is the responsibility of the flag State to ensure compliance by its vessels with the generally accepted international regulations, procedures and practices governing the safety of ships. Indeed article 217 (2) of UNCLOS provides that the flag State must ensure that vessels flying its flag or of its registry are prohibited from sailing until they can proceed to sea in compliance with the requirements of the international rules and standards for the prevention, reduction and control of pollution, including requirements in respect of the design, construction, equipment and manning of vessels.

(a) Ship construction, equipment, and seaworthiness

100. The generally accepted international regulations, procedures and practices governing the construction, equipment and seaworthiness of ships, referred to in UNCLOS, are basically those contained in the International Convention for the Safety of Life at Sea (SOLAS), the International Convention on Load Lines (LL) and the International Convention for the Prevention of Pollution from Ships, 1973, as modified

by the Protocol of 1978 relating thereto (MARPOL 73/78). In view of their importance, this section provides information on amendments to those instruments which entered or will enter into force in 2001, major amendments which were adopted in 2000 and major policy decisions relating to those instruments.

(i) Entry into force of amendments in 2001

101. Amendments to annex I, regulation 13 G, of MARPOL 73/78, which were adopted by the IMO Marine Environment Protection Committee in its resolution MEPC.78(43) in July 1999, entered into force on 1 January 2001. Existing oil tankers between 20,000 and 30,000 tons dwt carrying persistent oils, such as heavy diesel oil and fuel oil, are now subject to the same construction requirements as crude oil tankers.

(ii) Adoption of amendments in 2000

102. In 2000, IMO adopted, inter alia, the following new regulations concerning ship construction and equipment:

- A new revised SOLAS Chapter V (Safety of navigation);
- A new High-Speed Craft Code 2000. The Code will enter into force on 1 July 2002 and is mandatory under SOLAS Chapter X (Safety measures for high-speed craft);
- A revised SOLAS Chapter II-2 (Construction — Fire protection, fire detection and fire extinction) and a new International Code for Fire Safety Systems (FSS Code), which is mandatory under revised Chapter II-2. Both will enter into force on 1 July 2002 under tacit acceptance;
- A new regulation 3-5 in SOLAS Chapter II-1 (Construction — Structure, subdivision and stability, machinery and electrical installations), which prohibits the new installation of materials containing asbestos on all ships. It will enter into force on 1 July 2002.

103. *Adoption of revised SOLAS Chapter V.* IMO reported that a new revised SOLAS Chapter V dealing with several aspects of safety of ships and safety of navigation was adopted by the Maritime Safety Committee (MSC) at its 73rd session (27 November to 6 December 2000)[19] and will enter into force on 1 July 2002 under the system of tacit acceptance of amendments regulated by SOLAS. Once it is in force, all new ships and existing passenger and ro-ro ships would have to be fitted with voyage data recorders (VDRs). A study would be carried out to examine the need for mandatory carriage of VDRs on existing cargo ships. Like the black boxes carried on aircraft, VDRs enable accident investigators to review procedures and instructions in the moments before an incident and help to identify the cause of any accident.

104. Another requirement, which would apply upon entry into force of revised SOLAS Chapter V, would be for all new ships of 300 gross tonnage or more engaged on international voyages, cargo ships of 500 gross tonnage or more not engaged on international voyages and passenger ships irrespective of size built on or after 1 July 2002 to be fitted with an automatic identification system (AIS) capable of providing information about the ship to other ships and to coastal authorities automatically.

105. A third new major change concerns the carriage requirements for ship-borne navigational systems and equipment. New regulation 19 of Chapter V allows an electronic chart display and information system (ECDIS) to be accepted as meeting the chart carriage requirements of the regulation. The regulation requires all ships, irrespective of size, to carry nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage.

(iii) Major policy decisions in 2000

Elimination of sub-standard oil tankers

106. IMO reported that an MSC Working Group had developed a proposed list of measures to eliminate sub-standard ships, and the MSC had agreed to refer the list of measures to the organization's subcommittees and to the Marine Environment Protection Committee for general consideration. This work follows upon agreement at MEPC in October 2000 to accelerate the current phase-out schedule for single-hull oil tankers. The actual finalized revised phase-out schedule was expected to be adopted in April 2001 (see paras. 358-361).

Safety of large passenger ships

107. IMO reported that MSC, at its 72nd session, had considered a proposal by the Secretary-General of IMO to undertake a global consideration of safety issues pertaining to passenger ships, with particular emphasis on large cruise ships.[20] In response, the Committee established a Working Group on Enhancing the Safety of Large Passenger Ships, with the aim of identifying the extent to which current regulations should be reviewed, in the light of the sheer size of these vessels and the numbers of persons carried on board, and in particular with regard to emergency situations and seafarer training.

108. At the 73rd session of MSC, the Working Group reviewed the current safety regime as it relates to large passenger ships and identified areas of concern relating to: (a) the ship, including construction and equipment, evacuation, operation and management; (b) the people, including crew, passengers, rescue personnel, training, crisis and crowd management; and (c) the environment, including search and rescue services, operation in remote areas and weather conditions.

109. MSC endorsed the Working Group's decision that future large passenger ships should be designed for improved survivability based on the time-honoured philosophy that "a ship is its own best lifeboat". The Committee endorsed a preliminary work plan as developed by the Working Group, which includes elements relating to the following areas of concern: collision and grounding; equipment failure; escape, evacuation and rescue; fire safety; medical emergency; operations and management; vessel surveys; search and rescue; ship survivability; and evacuation, life-saving systems and arrangements.

(b) Training and certification of crew

110. It has been estimated that some 80 per cent of marine casualties are attributable in some part to human error. Efforts within IMO have therefore continued to focus on improving the training and certification standards for crew, particularly on ensuring that the minimum requirements set out in the 1995 amendments to the 1978 STCW Convention are being implemented. According to the 1995 amendments, States are required to provide detailed information to IMO concerning administrative measures taken by them to ensure compliance with the Convention.

111. IMO in its submission reported that it had recently published a so-called "White List" of countries deemed to be giving "full and complete effect" to the 1995 amendments to the STCW Convention. At its 73rd session, MSC formally endorsed the findings of a working group established to examine a report presented by the Secretary-General to MSC, which revealed that 71 countries and one Associate Member of IMO had met the criteria for inclusion in the list. A position on the White List entitles other parties to accept, in principle, that certificates issued by or on behalf of the parties on the list are in compliance with the Convention.

112. In setting out unambiguously which countries are meeting the latest standards and requirements, according to IMO, the White List marks a significant step forward in the IMO global effort to rid the world of sub-standard ships and shipping. For the first time, it provides an IMO "seal of approval" for countries that have properly implemented the provisions of a Convention.

113. It is expected that port State control inspectors will increasingly target ships flying flags of countries that are not on the White List. A flag State party that is on the White List may, as a matter of policy, elect not to accept seafarers with certificates issued by non-White List countries for service on its ships. If it does accept such seafarers, they will be required by 1 February 2002 also to have an endorsement, issued by the flag State, to show that the flag State recognizes their certificate. By 1 February 2002, masters and officers should hold STCW 95 (STCW Convention as amended by the 1995 amendments) certificates or endorsements issued by the flag State. Certificates issued and endorsed under the provisions of the STCW Convention will be valid until their expiry date.

114. It was stressed at the MSC meeting that giving "full and complete effect" to the revised Convention might not be the same for all parties. Some may choose not to have any maritime training institutes at all and rely on recognition of certificates issued to seafarers by other States. Similarly, some parties may only provide a limited scope of training, such as for ratings only.

115. The fact that a party is not listed on the White List does not invalidate certificates or endorsements issued by that party. Nevertheless, the White List will become one of several criteria, including inspection of facilities and procedures that can be applied in the

selection of properly trained and qualified seafarers. Countries not initially included in the White List will be able to continue with the assessment process with a view to inclusion on the list at a later stage.

116. In the opinion of the Secretary-General of IMO, the fact that member States delegated the authority for assessing the implementation of STCW 95 to IMO indicates that the will to give the organization a greater role in implementation does exist. IMO is ready to respond to similar approaches in other areas where quality assurance needs to be reinforced and the name of IMO would lend credibility. In this way the STCW verification process points in the direction of a new and expanded role for IMO in the future.

Forgery of certificates of competence of seafarers

117. IMO in its submission recalled that the IMO Assembly, in its 1999 resolution A.892(21) on unlawful practices associated with certificates of competency and endorsements, had highlighted the problem of fraudulent certificates of competency issued in relation to the STCW Convention and urged Member States to take all possible steps to investigate cases and prosecute, or assist in the investigation and prosecution of, those found to be involved in the processing or obtaining of fraudulent certificates or endorsements, including the holders of such certificates or endorsements. An MSC circular on fraudulent certificates of competency (MSC/Circ.900), issued on 2 February 1999, also invited member States and parties to STCW to report to IMO and to the relevant administration any cases or suspected cases of fraudulent certificates, to intensify efforts to eliminate the problem and to act under the terms of the Convention, including prosecution of those involved, if seafarers on board were found to be holding fraudulent certificates; this could also involve detaining the ship.

118. Preliminary results of an IMO research study to establish the nature and extent of unlawful practices associated with certificates of competency has revealed 12,635 cases of forgery in certificates of competency and equivalent endorsements.[21] The study, being carried out by the Seafarers International Research Centre, Cardiff, United Kingdom, is in its final stages, having completed the data collection phase, and a final report is being produced.

119. *Training and certification of fishing vessel personnel*. The 1995 International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) is not yet in force. Efforts to improve the training, certification and watchkeeping standards of personnel on board fishing vessels have been adopted as recommendations in IMO Assembly resolutions and in the Document for Guidance on Fishermens' Training and Certification produced jointly by IMO, FAO and ILO. Amendments to the latter were adopted by MSC at its 72nd session.[22]

(c) Labour conditions

Review of ILO maritime instruments

120. ILO reported that the 29th session of the ILO Joint Maritime Commission in January 2001 constituted the first full session of the Commission since 1991. At the session the Commission adopted a historic Agreement, known as the Geneva Accord, designed to improve safety and working conditions in the maritime industry. Participants, including representatives of shipowners and seafarers, resolved that "the emergence of the global labour market for seafarers had effectively transformed the shipping industry into the world's first genuinely global industry, which required a global response with a body of global standards applicable to the whole industry". The Commission decided that the existing ILO maritime instruments should be consolidated and brought up to date by means of a new, single framework Convention on maritime labour standards. With a view to ensuring acceptable standards of working and living conditions for seafarers of all nationalities and in all merchant fleets, this approach envisages a more logical and flexible structure for maritime labour instruments and a more streamlined process for keeping them up to date. The ILO Governing Body has been requested by the Commission to authorize a programme of tripartite meetings (shipowners, seafarers and Governments) to prepare for an ILO Maritime Conference in 2005 to adopt the anticipated new framework Convention.

121. The Commission updated the minimum basic wage of able seamen. It also expressed deep concern about recent arrests of seafarers, in particular, ship captains, following maritime accidents, even before any investigation had taken place, and called upon the ILO Director-General to bring those concerns to the attention of all ILO member States.[23]

Provision of financial security for seafarers' claims

122. ILO reported that the Joint IMO/ILO Ad Hoc Expert Working Group on Liability and Compensation regarding Claims for Death, Personal Injury and Abandonment of Seafarers had held its second session from 30 October to 3 November 2000 (for the report of the first session, see A/55/61, paras. 201-203). The Working Group considered a document containing information collected by the IMO and ILO secretariats on the issues of abandonment and financial security for personal injury and the death of crew members. The document also includes information received from Governments regarding obstacles to the ratification of relevant ILO and IMO conventions, as well as UNCLOS.

123. ILO explained that the issues raised in the IMO/ILO document had led to the development by the Working Group of preliminary draft terms for inclusion in two resolutions and associated guidelines, one relating to abandonment and the other to death and injury.[24] The proposed possible draft resolution on guidelines on the provision of financial security in cases of abandonment of seafarers states that abandonment of seafarers is a serious problem, involving a human and social dimension and requiring urgent attention. It affirms that payment and remuneration and provision for repatriation should form part of the seafarer's contractual and/or statutory rights and are not affected by the failure or inability of the shipowner to perform its obligations.

124. The proposed possible draft resolution on guidelines on shipowners responsibilities in respect of contractual claims for personal injury to or death of seafarers notes that there is a need to recommend minimum international standards for the responsibilities of shipowners in respect of contractual claims for personal injury and death of seafarers. It notes with concern that if shipowners do not have effective insurance cover, or other form of financial security, seafarers may not obtain prompt and adequate compensation, and adds that recommendatory guidelines are an appropriate interim means of establishing a framework to encourage all shipowners to take steps to ensure that seafarers receive contractual compensation for personal injury and death. The accompanying draft guidelines provide definitions for contractual claims, effective insurance, and set out shipowners' responsibilities to arrange for effective insurance cover.

125. The Working Group agreed to hold a third meeting from 30 April to 4 May 2001 to finalize the resolutions and guidelines before presenting them to the IMO Legal Committee at its 83rd session in October 2001 and to the ILO Governing Body at its 279th session in late 2001. Following a review by these bodies, the resolutions and guidelines could then be adopted by the IMO Assembly in November 2001.

Labour conditions of fishermen

126. With more than 70 fatalities per day, fishing at sea may be the most dangerous occupation in the world, according to the FAO report on the "State of World Fisheries and Aquaculture 2000".[25] According to the report, the ILO estimate of the worldwide death toll among fishers of 24,000 may be considerably lower than the true figure because only a limited number of countries keep accurate records on occupational fatalities in their fishing industries.

127. Also as stated in the report, which was to be presented to the FAO Committee on Fisheries at its meeting to be held from 26 February to 2 March 2001, more than 97 per cent of the 15 million fishers employed in marine capture fisheries worldwide are working on vessels that are less than 24 metres in length, placing them beyond the scope of international conventions and guidelines. Where inshore resources have been overexploited, fishers must work farther away from shore, sometimes for extended periods, and frequently in fishing craft designed for inshore fishing, which do not comply with security regulations, according to FAO.

128. One of the main reasons for the occurrence of fatal accidents, according to the report, is the as yet unratified status of an international legal instrument on safety at sea, i.e., the 1993 Protocol to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977, which superseded the Torremolinos Convention. It also cites lack of national regulations or, where they do exist, their lack of enforcement, a lack of experience of offshore fishing operations and a lack of knowledge about essential issues such as navigation, weather forecasting, communications and the vital culture of safety at sea. FAO believes that many of these situations can be

rectified and is involved in a number of activities with this objective in the Caribbean, Asia and the Pacific.

129. In developing countries, poorly designed and poorly built fishing craft, lack of safety equipment and inappropriate, outdated and inadequately enforced regulations are the main causes of fatalities. In one night, in November 1996, during a severe cyclone, more than 1,400 fishers perished in India owing to poorly designed trawlers and lack of awareness of the intensity of the danger.

130. In developed countries, rapid progress in vessel construction and fishing technologies and the application of more stringent regulations have not always led to a significant decrease in fatalities. As the report points out: "It seems that, as vessels are made safer, operators take greater risks in their ever increasing search for good catches". It should be noted that all of the Nordic countries have introduced obligatory safety courses for fishers.[26]

131. ILO reported on the outcome of the Joint FAO/ILO/IMO Meeting on Safety and Health in the Fishing Industry, held in December 1999. At the first meeting of the Joint FAO/IMO Ad Hoc Working Group on Illegal, Unreported and Unregulated (IUU) Fishing, in October 2000, it had drawn attention to the connection between IUU fishing and the human dimension of fishing, in particular expressing concern over cases of abuse of fishermen on certain vessels (see paras. 252-255). An ILO paper, annexed to the report of the Working Group, discussed the issues of flag State and port State control of labour conditions on fishing vessels.[27]

2. Transport of cargo

132. At the first meeting of the Consultative Process, several delegations, in addressing the maritime transport of oil, hazardous substances and wastes, pointed out that the following issues merited attention: making use of the "vessel monitoring system" obligatory; revising current main routes of maritime transport in order to improve security standards and surveillance; implementing monitoring programmes to control environmental quality; and verifying the effective respect for safety rules for cargo, ships and crews, especially in the context of flags of convenience and the prevention of reflagging of vessels posing safety hazards (A/55/274, part B, para. 114).

133. IMO cited the organization's constant review of safety codes as an example of the degree to which it continuously updated the comprehensive set of safety regulations on board ships. The International Dangerous Goods (IMDG) Code, which was introduced by IMO in 1965 as a uniform international code for the transport of dangerous goods by sea covering such matters as packing, container traffic and stowage, with particular reference to the segregation of incompatible substances, had recently been revised and reformatted to make it more user-friendly and understandable.[28] At its 73rd session, MSC decided, in principle, to make the IMDG Code mandatory, aiming at an entry-into-force date of 1 January 2004, and instructed the subcommittee on Dangerous Goods, Solid Cargoes and Containers at its sixth session in July 2001 and the secretariat to prepare relevant documents such as draft amendments to SOLAS. MSC agreed that some chapters of the IMDG Code would remain recommendatory in nature.

134. In 2000, IMO also adopted amendments to the following codes: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code), which is mandatory under SOLAS and MARPOL 73/78 (resolutions MEPC.90(45) and MSC.102(73)); International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), which is mandatory under SOLAS (resolution MSC.103(73)); Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code), which is mandatory under MARPOL 73/78 (resolutions MEPC.91(45) and MSC.106(73)); and Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code) (resolution MSC.107(73)). The amendments will enter into force on 1 July 2002 under tacit acceptance.

Transport of radioactive materials

135. Amendments to SOLAS Chapter VII adopted in 1999 by the Maritime Safety Committee in resolution MSC.87(71) entered into force on 1 January 2001 and provide for the mandatory application of the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-level Radioactive Wastes on Board Ships (INF Code). The Code applies to all ships, regardless of the date of construction and size, engaged in the carriage of INF

cargo. Specific regulations in the Code cover a number of issues, including damage stability, fire protection, temperature control of cargo spaces, structural considerations, cargo-securing arrangements, electrical supplies, radiological protection equipment and management, training and shipboard emergency plans.

136. Carriage requirements for highly radioactive cargo, for example, design, fabrication, maintenance of packaging, handling, storage and receipt, which are applicable to all modes of transport, are contained in the IAEA Regulations for the Safe Transport of Radioactive Material. In its resolutions on "Safety of Transport of Radioactive Materials", adopted over the past three years (resolutions GC(44)/RES/17, GC(43)/RES/11 and GC(42)/RES/13, adopted respectively in September 2000, 1999 and 1998), the IAEA General Conference has invited States shipping radioactive materials to provide, as appropriate, assurances to potentially affected States, upon their request, that their national regulations take into account the IAEA Regulations for the Safe Transport of Radioactive Material and to provide them with relevant information relating to shipments of such materials. The information provided should in no case be contradictory to the measures of physical security and safety. In the resolution adopted in 2000, GC(44)/RES/17, the General Conference noted the concerns of small island developing States and other coastal States about the transport of radioactive materials by sea and the importance of the protection of their populations and the environment. The General Conference called for efforts at the international, regional and bilateral levels to examine and further improve measures and international regulations relevant to the international maritime transport of radioactive material and spent fuel, consistent with international law, and stressed the importance of having effective liability mechanisms in place.

137. A similar call to examine and further improve measures was also made in the Final Document of the 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (May 2000).[29] The Conference urged States to ensure that the IAEA Regulations for the Safe Transport of Radioactive Material were maintained; affirmed that it was in the interests of all States that any transportation of any radioactive materials should be conducted in compliance with the relevant international standards of nuclear safety and security and environmental protection, without prejudice to the freedoms, rights and obligations of navigation provided for in international law; took note of the concerns of small island developing States and other coastal States with regard to the transportation of radioactive materials by sea; recalled the invitation to the shipping States in IAEA resolution GC(43)/RES/11; and called upon States parties to continue working bilaterally and through the relevant international organizations to examine and further improve measures and international regulations relevant to the international maritime transportation of radioactive material and spent fuel.

138. Most recently, the General Assembly in its resolution 55/49 of 29 November 2000, entitled "Zone of peace and cooperation of the South Atlantic", called upon Member States to continue their efforts towards the achievement of appropriate regulation of maritime transport of radioactive and toxic wastes, taking into account the interests of coastal States and in accordance with UNCLOS and the regulations of IMO and IAEA.

139. Pursuant to the request of the IMO Marine Environment Protection Committee and as a step in addressing the subject of the environmental impact of accidents involving materials subject to the INF Code, IMO and IAEA presented to MEPC at its 45th session (October 2000) a literature review on the potential hazards of radioactive material in the environment (MEPC 45/INF.2). A decision on how to proceed is to be taken at the next session of the Committee (MEPC 45/20, sect. 12).

140. Shipments of mixed oxide fuel between Europe and Japan continue to be of great concern to the coastal States along the routes currently being used for the shipments. Such concerns are heightened by the anticipation of more shipments past their coasts in the future, since Japan has a long-term contract with the United Kingdom and France for them to reprocess radioactive waste from Japanese nuclear power plants. Plutonium extracted from spent fuel is mixed with uranium oxides to produce so-called mixed oxide fuel (MOX); the remaining radioactive waste is embedded in glass for burial. The United Kingdom and France return radioactive fuel and waste to Japan by armed convoys, which go around Africa and South America or through the Panama Canal. According to a recent news report, the Russian Federation and Japan are exploring the possible shipment of MOX from Europe

via the northern route off the Arctic coasts of the Russian Federation during the summer months because it would be shorter and safer from terrorist attack.[30]

141. In the past, some coastal States have either warned ships carrying MOX to stay out of their territorial seas and exclusive economic zones, for example, New Zealand[31] — or said that they preferred them not to enter those waters — for example, South Africa.[32] The Caribbean Community (CARICOM) has repeatedly called for a cessation of MOX shipments through the Caribbean Sea. At the 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, CARICOM expressed the view that the INF Code, while binding, did not protect en-route coastal States, and as a consequence they had no legal recourse to compensation for accidents, which were becoming more likely as shipments of radioactive nuclear wastes were increasing dramatically. CARICOM consequently called for consultations leading to the establishment of a comprehensive international regime for the protection of the populations and the marine environment of en-route coastal States from harm resulting from shipments of nuclear material (see also para. 404).[33]

142. Participants in the Workshop entitled "The Prevention of Marine Pollution in the Asia-Pacific Region" (Australia, 7-12 May 2000) said that, consistent with UNCLOS, IMO should liase with IAEA on steps that might be taken to establish a monitoring and control system and a liability and compensation regime for maritime transport of radioactive materials. In the Workshop Statement, they recommended that the United Nations urgently address regional concerns over the issue of maritime transport of radioactive materials.[34]

143. The Pacific Islands Forum said it was engaged in a constructive dialogue with government and nuclear industry representatives from France, Japan and the United Kingdom on a liability regime for compensating the region for economic losses incurred by the tourism, fishery and other industries affected as a result of an accident involving a shipment of radioactive materials and MOX fuel even if no actual environmental damage were caused. The Forum considered it necessary to focus on intermediate innovative arrangements or assurances to address its concerns, since amendments to existing international instruments, though under negotiation, would, when concluded, take some time to enter into force. It therefore called for a high-level commitment from the three shipping States to carry the process forward. It welcomed the offer by Japan to establish a "goodwill" trust fund for Forum countries, with an initial principal of US$ 10 million, which would be available to cover the costs of the initial response to incidents during shipment of radioactive materials and MOX fuel through the region. The Forum understood this Fund to be quite separate from the issue of compensation and liability, which it was currently pursuing with the three shipping States.[35]

3. Safety of navigation

144. A shipping accident can result from a failure in the structure of the ship or because of a navigational error, such as a collision. Weather conditions can also affect a ship's navigation. The flag State not only has the duty to ensure the safety of the ship in terms of construction, equipment, manning, training, labour conditions of the crew and safe carriage of the cargo, but is also responsible for ensuring that the ship is navigated safely. Article 94 of UNCLOS requires, inter alia, that the master, officers and crew on board observe the applicable international regulations concerning the use of signals, the maintenance of communications and the prevention of collisions. Masters and officers are required to have appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and the crew must be of the appropriate qualifications and size for the type, size, machinery and equipment of the ship.

145. Ships are also required by UNCLOS to observe the applicable rights of passage in the various maritime zones, as well as, where appropriate, the measures which coastal States can take in regulating maritime traffic, for example, designated sea lanes and prescribed traffic separation schemes. Detailed rules regarding the safety of navigation are provided in SOLAS, Chapter V, and the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG). In this regard attention is drawn to the adoption of a new revised SOLAS Chapter V by the MSC, at its 73rd session (27 November-6 December 2000), and its approval of draft amendments to COLREG, for submission to the IMO Assembly at its 22nd session in November 2001 for final adoption.[36]

146. The new regulations in the revised SOLAS Chapter V, which take into account advances in technology, relate predominantly to the introduction of new requirements for ship-borne equipment (see paras.

103-105). The current regulations on ship routeing, ship reporting and vessel traffic services were not revised, only renumbered. Amendments were adopted to the regulation dealing with the Ice Patrol Service and a new appendix was added to provide rules for the management, operation and financing of the North Atlantic ice patrol (see para. 152).

(a) Ship routeing and reporting systems

147. IMO reported that MSC at its 73rd session had adopted amendments to the General Provisions on Ships' Routeing (resolution A.572(14), as amended) to incorporate "no-anchoring areas".

148. New and amended ship routeing and reporting systems adopted by MSC at the 73rd session include: a new mandatory ship-reporting system "Off Les Casquets and the adjacent coastal area" (central English Channel, to supplement the existing mandatory ship-reporting systems already established at Ouessant and in the Pas de Calais); three mandatory no-anchoring areas on coral reef banks (Flower Garden Banks) in the north-western Gulf of Mexico; four new traffic separation schemes along the coast of Peru; new traffic separation schemes and associated routeing measures in the approaches to the River Humber on the east coast of England; and amendments to the existing traffic separation scheme in Prince William Sound (United States). The new measures take effect as from 1 June 2001.

(b) Archipelagic sea lanes

149. Indonesia informed MSC at its 72nd and 73rd sessions of progress made in finalizing its draft national regulations concerning the designated archipelagic sea lanes and other basic rules and regulations on related passages. It pointed out that as a result of the creation of the newly independent State of East Timor, a new regime would have to be applied to one of the three archipelagic sea lanes designated by IMO in its resolution MSC.72(69) in 1998 (see A/53/456, para. 196), i.e., the one which crosses sea lanes III-A (in the Ombai Strait) and III-B (in the Leti Strait), since the latter two straits border East Timor and are no longer part of Indonesian archipelagic waters. An additional provision to that effect had been incorporated in the draft national regulations, to the effect that they would no longer apply to the archipelagic sea lanes in the Ombai and Leti straits. The Government had recognized the need for further consultations with other maritime users of sea lanes III-A and III-B, for which a new regime had been proposed, before the draft national regulations were officially enacted.[37]

(c) Meteorological warnings and forecasts

150. The World Meteorological Organization (WMO) pointed out that the report of the reopened formal investigation into the loss of the *MV Derbyshire*, published in the United Kingdom in November 2000, dramatically highlighted once again the vulnerability of all shipping to extreme meteorological and oceanographic conditions, as well as the value to shipping of accurate and timely meteorological warnings and forecasts as part of maritime safety services. Meteorological and oceanographic observations made by ships at sea (under the WMO Voluntary Observing Ships (VOS) scheme) and transmitted to shore in real time are an essential component of the observational data used by national meteorological services in the preparation of such maritime safety services. The availability of such observations has, unfortunately, remained static, or actually decreased, for several years, for a number of reasons. The *MV Derbyshire* inquiry report also reiterated the importance of these VOS observations and urged more ships to participate in the VOS scheme.

151. WMO reported that it continued to make major efforts to enhance the VOS scheme in support of maritime safety. Specifically, in 2000, a descriptive brochure on the VOS had been prepared for distribution to shipping companies, ships' masters, maritime administrations and national meteorological services. In addition, a series of international training workshops for Port Meteorological Officers (PMOs), South Africa, has continued, with a workshop in Cape Town for African countries. PMOs were crucial to the recruitment and maintenance of the VOS. Finally, WMO planned to collaborate with IMO in the rewriting and reissue of an IMO/MSC circular letter on the subject of the VOS. This rewriting would, in particular, highlight the findings in the *MV Derbyshire* inquiry report relating to the VOS.

(d) Provision of services/sharing of costs

152. *North Atlantic Ice Patrol.* Amended regulation 6 on the Ice Patrol Service and the Rules for the management, operation and financing of the North Atlantic Ice Patrol appended to revised SOLAS

Chapter V[38] provide, inter alia, that each SOLAS Contracting Government specially interested in the ice patrol services whose ships pass through the region of icebergs during the ice season will undertake to contribute to the Government of the United States its proportionate share of the costs of the management and operation of the ice patrol service. Each contributing Government has the right to alter or discontinue its contribution, and other interested Governments may undertake to contribute to the expense of the service. The Rules provide for a voluntary contribution system, while also providing the United States, as the manager of the ice patrol, with the legal basis for implementing a new system of calculation. Upon the entry into force of the Rules, the 1956 Agreement regarding Financial Support for the North Atlantic Ice Patrol will terminate and the parties to the 1956 Agreement will be deemed to be contributing Governments under the new Rules. MSC at its 73rd session, in adopting the new regulation and the Rules, reaffirmed its previous decision in 1999 that "the Ice Patrol financing system was unique and should not create a precedent for charging ships navigating in international waters for services provided by coastal States" (see also A/54/429, paras. 173-176).

153. *Straits used for international navigation: article 43 of UNCLOS.* At the Workshop entitled "The Prevention of Marine Pollution in the Asia-Pacific Region" (Australia, 7-12 May 2000),[39] the participants noted that the risks of ship-based marine pollution, both accidental and intentional, were higher in the major international shipping channels in the Asia-Pacific region with a high intensity of shipping traffic. The States bordering the straits were understandably concerned about the high cost of maintaining maritime safety and reducing the impact of marine pollution. It was important for user States to honour their obligations under article 43 of UNCLOS and assume a greater share of this burden. The Workshop recommended "that competent international organizations address the financial and resource burden of coastal States in implementing article 43 of UNCLOS on the development of safety of navigation and protection of the marine environment in straits used for international navigation".

4. Flag State implementation

154. Flag States have the primary responsibility to have in place an adequate and effective system to exercise control over ships entitled to fly their flag and to ensure they comply with relevant international rules and regulations.

155. It has been reported that one of the greatest impediments to a genuine "quality culture" in shipping is the lack of a sufficient degree of transparency in the information on the quality of ships and their operators. While much relevant information has been collected and made available, it is scattered and often difficult to access. One of the main conclusions of the Quality Shipping Conference held at Lisbon in June 1998 was a unanimous call from the participants, representing the whole range of industry professionals (including shipowners, cargo owners, insurers, brokers, classification societies, agents and port and terminal operators), to make such information more accessible. In response, the Commission of the European Communities and the maritime authorities of a number of countries in 2001 inaugurated an information system know as EQUASIS, with the aim of collecting existing safety-related information from both public and private sources and making it available on the Internet. A given ship's history as presented on the EQUASIS web site, www.equasis.org, includes information on its registry, classification and Protection and Indemnity (P&I) cover, port State control details and any deficiencies discovered, manning information, etc.

156. Measures adopted by IMO to improve the effective implementation of international rules and standards have focused on strengthening the management of shipping companies and assisting flag States in assessing their performance. IMO also provides technical assistance to individual States upon request (see A/55/61, paras. 225-226) and has been very active in strengthening port State control. Recently, the organization has also been considering new measures to improve the effective implementation of international rules and standards (see paras. 161-164), including measures to enhance the implementation of flag State responsibility relating to fishing vessels (see paras. 251-255).

International Safety Management (ISM) Code

157. The ISM Code seeks to provide a framework for shipping companies' management and operation of their fleets. It requires that a safety management system be established by "the Company", which is defined as the shipowner or any person such as the manager or bareboat charterer who has assumed responsibility for operating the ship, and specifies the

responsibilities regarding marine safety and environmental legislation (see A/53/456, paras. 221-222). The Code entered into force on 1 July 1998 for passenger ships, (including high-speed passenger craft), oil tankers, chemical tankers, gas carriers, bulk carriers and high-speed cargo craft of 500 gross tonnage and above. The deadline for the remaining thousands of cargo ships trading internationally is 1 July 2002.

158. Amendments to the ISM Code were adopted by MSC at its 73rd session in resolution MSC.104(73). The amendments replace the existing chapter 13 (certification, verification and control) with a new chapter 13 (certification) and additional chapters 14 (interim certification), 15 (forms of certificate) and 16 (verification); as well as a new appendix giving forms of documents and certificates. The amendments will enter into force in 1 July 2002 under tacit acceptance.

159. It is too early to assess the full impact of ISM Code implementation on the first set of ships, which had to comply with the Code by 1998, but there are signs that it has already had an effect, especially in making the management of shipping companies more aware of their responsibilities. From the commercial standpoint, there are clear indications that ISM certification provides real value.

Self-assessment of flag State performance

160. IMO recalled that the IMO Assembly at its 21st session in November 1999 had adopted resolution A.881(21) on self-assessment of flag State performance, in which it urged member Governments to assess their capabilities and performance in giving full and complete effect to the various instruments to which they were party. The resolution includes a flag State performance self-assessment form (SAF), which is intended to establish a uniform set of internal and external criteria to be used by flag States on a voluntary basis to obtain a clear picture of how well their maritime administrations are functioning and to make their own assessment of their performance as flag States. Member Governments are also encouraged to use the SAF when seeking technical assistance from or through IMO. However, the submission of a completed form is voluntary and is not a prerequisite for receiving technical assistance. The IMO Assembly invited member Governments to submit a copy of their self-assessment report to enable the establishment of a database to assist IMO in its efforts to achieve consistent and effective implementation of IMO instruments. At its 73rd session, MSC discussed in depth the features of the SAF database to be maintained by the IMO secretariat.

Consideration of new measures

161. MSC at its 73rd session considered a joint submission by Australia, Denmark, Italy, Norway, Poland, Portugal, Singapore, Sweden and the European Commission (MSC 73/8/3) (see also A/55/61, para. 88) explaining why IMO should address the invitation in paragraph 35 (a) of decision 7/1 adopted by the Commission on Sustainable Development in 1999 to develop binding measures to ensure that ships of all flag States met international rules and standards so as to give full and complete effect to UNCLOS, especially article 91, as well as the provisions of relevant IMO conventions. After considerable discussion, the Committee decided to instruct its Subcommittee on Flag State Implementation to consider the Commission's request under the following terms of reference: development of measures to ensure that flag States give full and complete effect to IMO and other relevant conventions to which they are party so that the ships of all flag States meet international rules and standards; consideration of the form such measures should take and how that form would relate to applicable IMO instruments.

162. The Subcommittee on Flag State Implementation, at its 9th session in February 2001, noting that no proposals had been submitted to it, invited members to submit comments and proposals at its 10th session in 2002 to enable it to consider the above-mentioned request of MSC.

163. When a ship transfers from one flag to another, the receiving flag State must have available to it all the necessary information to prevent the change of flag being used as a means of evading compliance with applicable regulations and standards.[40] In a document submitted to the Subcommittee at its 9th session, the United Kingdom proposed five principles for incorporation in an IMO Assembly resolution, against which the transfer of ships might be considered. The document suggests, inter alia, that prior to transfer, the "losing" State must advise the "gaining" State of any outstanding issues pertaining to the certificate the vessel has been issued or to any exemptions which may have been granted. The gaining State must then be satisfied, based on survey, that the vessel meets all

relevant international standards. Once these conditions are satisfied, appropriate certificates, issued by or under the authority of the gaining State, can be provided to the vessel and the vessel may be deleted from one register and entered onto the other.[41] The Subcommittee agreed on the need to establish principles against which the transfer of ships might be considered and also agreed that some of the principles in the United Kingdom document could form the basis for developing such principles.[42]

164. The need for revision and improvement in the practices of registration of ships in order to avoid cases of double registration and the registration of so-called "phantom ships" (see paras. 179 and 200) was raised by Norway in its submissions to MSC at its 73rd session and to the Subcommittee at its 9th session.[43] MSC agreed to refer the matter to the Subcommittee for detailed consideration in the context of its review of the draft Assembly resolution it had prepared on measures to prevent the registration of phantom ships. At its 9th session, the Subcommittee considered the draft Assembly resolution prepared by MSC and agreed to restrict its scope to "phantom ships".[44]

165. In the context of fishing vessels, and in order to prevent dual registration, States members of the zone of peace and cooperation of the South Atlantic have undertaken the commitment to cooperate among themselves in exchanging information on the registry of fishing vessels flying their flags (see A/55/476, p. 2, para. 5).

5. Port State control

166. IMO recalled that the IMO Assembly in 1999 had adopted resolution A.882(21) on amendments to the procedures for port State control, with a view to updating the comprehensive guidelines and recommendations on port State control procedures contained in resolution A.787(19) (see A/54/429, paras. 196-197).

167. During the reporting period, IMO continued its task of assisting in the implementation of the Memoranda of Understanding on Port State Control. A Workshop for Regional Port State Control Agreement Secretaries and Directors of Information Centres was held from 7 to 9 June 2000. Participants discussed harmonization and coordination of port State control procedures and exchange of information between regional Memoranda of Understanding agreements. Eight such regional agreements have been signed and are currently in operation. The Paris Memorandum of Understanding was the first to be adopted; other's cover the following regions: Asia and the Pacific, Black Sea, Caribbean, Indian Ocean, Latin America, Mediterranean, and West and Central Africa (see A/54/429, paras. 199-207). The only region remaining to be covered by a Memorandum of Understanding is the Gulf region.

168. ILO reported that, as of December 2000, the Merchant Shipping (Minimum Standards) Convention, 1976 (No. 147) had been included as a relevant instrument in seven Memoranda of Understanding.

V. Crimes at sea

169. Criminal activities at sea include piracy and armed robbery against ships, terrorism, smuggling of migrants, and illicit traffic in persons, narcotic drugs and small arms. They might also include violations of international rules dealing with the environment, such as illegal dumping, illegal discharge of pollutants from vessels or the violation of rules regulating the exploitation of the living marine resources, such as illegal fishing.

170. Most of the crimes which take place at sea, such as illicit traffic in narcotic drugs and psychotropic substances, smuggling of migrants, etc., are part of the broader, land-based problem of organized crime and the only way to effectively combat these crimes is for all States to cooperate at the global level. The recently adopted United Nations Convention against Transnational Organized Crime, the Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the above Convention (see para. 226) and the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, also supplementing the above Convention,[45] represent major efforts by the international community to prevent and combat transnational organized crime.

171. In recognition of the importance of cooperation in the fight against crime not only at the global, but also at the regional and bilateral levels, some States have already concluded or are considering the conclusion of maritime cooperation agreements which address more than one crime.

172. At the national level, where efficient use must be made of limited resources in the area of enforcement,

effective protection against all crimes at sea demands a multi-mission maritime expertise, since the kind of enforcement measures States can take to combat and suppress the various crimes at sea are differently regulated in various international instruments. Each case must be disposed of individually based on the complex humanitarian, diplomatic, environmental and legal issues at stake. This poses a particular challenge to enforcement officers, who are often called upon to combat more than one crime at sea and who must therefore know what enforcement rights a State can exercise under international law for each crime and which of their national ministries must be involved.

173. As States are adopting a comprehensive and multidisciplinary approach to maritime security and are streamlining their enforcement capabilities at the national, bilateral and regional levels, they may wish to give particular attention to the importance of ensuring that all relevant national laws are in place; that there is a common understanding of what measures can be taken; that enforcement officers are trained and that the relevant ministries can work together rapidly and adopt appropriate and functional responses.

A. Piracy and armed robbery against ships

174. Acts of piracy and armed robbery against ships represent a serious threat to the lives of seafarers, the safety of navigation, the marine environment and the security of coastal States. They also impact negatively on the entire maritime transport industry, leading, for example, to increases in insurance rates and even the suspension of trade. For example, Royal Dutch/Shell operations suspended deliveries in January 2001 to an area in Papua New Guinea where armed robbers had attacked one of its oil tankers. It said it was seeking strong assurances from the authorities that such criminal actions would reoccur.[46]

1. Extent of the problem — reports on incidents

175. Reports on incidents of piracy and armed robbery against ships are received by the International Maritime Organization and the International Maritime Bureau of the International Chamber of Commerce and are issued periodically by those organizations.

176. The IMO Secretariat stated that, based on the periodical reports and information it had provided, the Maritime Safety Committee at its 73rd session had expressed deep concern at the number of acts of piracy and armed robbery against ships reported to the organization during the first 10 months of 2000: a total of 314, representing an increase of 27 per cent over the figure for the same period in 1999. The Committee also noted that the total number of reported incidents of piracy and armed robbery against ships from 1984 (when IMO began compiling relevant statistics) to the end of October 2000 had increased to 2017. From 1 January to 31 October 2000 the number of reported incidents had decreased from 32 to 23 in West Africa. In all other regions there had been an increase of incidents reported: in East Africa, from 14 to 15; in Latin America and the Caribbean, from 29 to 30; in the South China Sea, from 110 to 112; in the Indian Ocean, from 28 to 75; and in the Straits of Malacca, from 29 to 58.

177. Most of the attacks reported had occurred in territorial waters while the ships were at anchor or berthed. The Maritime Safety Committee was particularly concerned that, during the same period, 9 crew members had been killed, 5 had been reported missing and 22 had been injured; and that, in addition, one ship had sunk and two had been hijacked. Therefore, the Committee, endorsing the remark of the Secretary-General of IMO that this was a very alarming trend which needed to be addressed, once again invited Governments of flag States, port States and coastal States as well as the industry to intensify their efforts to eliminate these unlawful acts.[47]

178. According to the report of the International Maritime Bureau for 2000, the annual number of incidents of piracy and armed robbery against ships had risen by 57 per cent as compared with 1999 and was nearly four and a half times as high as that of 1991. A total of 469 attacks on ships either at sea, at anchor or in port were reported to the Bureau during 2000; there were 307 instances of ship boardings and a total of 8 ship hijackings. The violence used in the attacks had also risen to new levels, with 72 seafarers killed and 99 injured, up from 3 killed and 24 injured the previous year. The Bureau believes that a large number of attacks remain unreported and that it expects to receive reports of additional incidents relating to 2000 in the coming months. More than a hundred incidents occurred in Indonesia. Elsewhere, the figures compiled by the Bureau show an alarming rise in incidents of piracy and armed robbery: in the Straits of

Malacca, 75, compared with 2 in 1999; in Bangladesh, 55, compared with 25 in 1999; in India, 35, compared with 14 in 1999; in Ecuador, 13, compared with 2 in 1999; and in the Red Sea, 13, compared with none in 1999. One of the few areas to see a downturn in activity was the Singapore Straits (5 incidents, down from 14).[48] While the majority of the attacks had been carried out while the ships were berthed or anchored, all but one occurring in the Straits of Malacca had involved ships that were steaming, thus increasing the risk of a collision and possible pollution of the marine environment.

179. The International Maritime Bureau has identified four types of attacks carried out within the past decade, varying very much which are associated primarily with the region in which they occur. The first type occurs mainly in Asia, where ships are boarded with a minimum of force unless resistance is offered and cash is taken from the ship's safe. India told MSC that 90 per cent of the reported incidents along the Indian coast related to petty thefts. The second type occurs mainly in South America or in West Africa, where ships are attacked by armed gangs while berthed or at anchor. In these cases, there is a high degree of violence and the targets are cash, cargo, personal effects, ship's equipment, in fact anything which can be removed. The third type occurs mainly in South-East Asia, where ships are hijacked and the entire cargo and/or sometimes the vessel itself are stolen. The crew is occasionally set adrift in boats, thrown overboard or shot dead. The fourth type of attack is described as a type of maritime attack with military or political features.[49]

180. Hijackings, according to the Bureau, are the work of organized criminals since they require a degree of organization that only the international crime syndicates can muster. A hijacked ship is given a new name, repainted and given false registration papers and bills of lading, thereby creating a "phantom ship". The vessel is often put in to a port where the false identity of the vessel and cargo may escape detection. Even when identified, the hijacking gangs have been known to bribe local officials to allow them to sell the cargo and leave the port. Ships are sold and often end up in shipbreaking yards. The Bureau reports that there is evidence that organized crime is also backing some of the bands of pirates that prey on shipping in the coastal waters of Malaysia, Indonesia, the Philippines and other countries.[50]

181. The Bureau does not draw a clear distinction in its reports between an incident of petty theft, armed robbery or piracy. It defines piracy for statistical purposes as "an act of boarding or attempting to board any ship with the intent to commit theft or any other crime and with the intent or capability to use force in the furtherance of that act". The definition covers actual or attempted attacks, whether the ship is berthed, at anchor or at sea. IMO in its reports distinguishes between piracy and armed robbery, but not between petty theft and armed robbery (see para. 197).

182. The already alarmingly high number of acts of piracy and armed robbery against ships reported to IMO and the Bureau during 2000 probably does not even represent the true figure, as also noted by the Bureau in its annual report (see para. 178). In 1998, the Secretary-General of the United Nations, in his annual report to the General Assembly at its fifty-third session (see A/53/456, paras. 147 and 148), stated that the International Maritime Bureau and the International Transport Workers' Federation had expressed the view that official reports accounted only for 50 per cent of the attacks, as shipowners were hesitant to report an incident for fear of having their ship immobilized during an enquiry (which could cost them up to $10,000 a day) and losing clients as a consequence. The insurance companies were said to settle cases discreetly and to simply increase premiums in high-risk regions. Reports of incidents would then be sent long after the incident had occurred, thus frustrating the conduct of investigations by coastal States into incidents reported in their waters. While the situation has improved somewhat since 1998, under-reporting of incidents still remains a serious problem.

2. Action at the global level

183. The problem of piracy and armed robbery against ships has been brought to the attention of a number of forums, most notably the United Nations General Assembly and IMO, as well as the first meeting of the Consultative Process (see A/55/274, part A, issue K, paras. 45-47; part B, para. 37; and part C, para. 2 (b)), and the Meeting of States Parties to UNCLOS (SPLOS/31, para. 64).

(a) General Assembly

184. The Secretary-General of the United Nations drew attention to the problem of piracy and armed robbery against ships for the first time in his annual

report on law of the sea to the General Assembly at its fortieth session in 1985 (A/40/923, para. 40) and has been including a separate section on the issue in his annual report on oceans and the law of the sea since 1993. The General Assembly addressed the problem of piracy and armed robbery against ships for the first time in its annual resolution on oceans and the law of the sea at its fifty-third session in 1998 (see resolution 53/32).

185. At its fifty-fifth session, the General Assembly had before it a note by the Secretary-General transmitting a copy of the letter addressed to him by the Secretary-General of IMO on 8 June 2000 (A/55/311, annex). The letter reported that MSC at its 72nd session, while acknowledging the positive action of the General Assembly and being appreciative of its support (as clearly demonstrated in resolution 54/31), was of the opinion that other bodies within the United Nations system might be able to provide additional assistance which would ensure that seafarers and ships could engage safely and peacefully in international maritime activities.

186. In its resolution on the item "Oceans and the law of the sea" adopted at its fifty-fifth session, the General Assembly noted the IMO Secretary-General's letter, and, as it had done the previous year in resolution 54/31, once again urged all States, in particular, coastal States, in affected regions to take all necessary and appropriate measures to prevent and combat incidents of piracy and armed robbery at sea, including through regional cooperation, and to investigate or cooperate in the investigation of such incidents wherever they occurred and bring the alleged perpetrators to justice in accordance with international law. The Assembly also repeated its call to States to cooperate fully with IMO, including by submitting reports on incidents to the organization and by implementing the IMO guidelines on preventing attacks of piracy and armed robbery. It furthermore once again urged States to become parties to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation and its Protocol[51] and to ensure its effective implementation. The General Assembly moreover recommended that coordination and cooperation in combating piracy and armed robbery at sea should be one of the main areas of focus of consideration at the second meeting of the Consultative Process.

(b) Measures taken by IMO, as reported by the IMO Secretariat

187. The IMO Secretariat reported that MSC at its 73rd session had taken note of General Assembly resolution 55/7, in particular in connection with the need to take appropriate measures to prevent and combat incidents of piracy and armed robbery at sea. The aim of its contribution was to provide comprehensive information on the work being undertaken by IMO in this area.

Background

188. In 1993, the IMO Assembly, mindful of the duty of States to cooperate in the repression of piracy as stipulated in article 100 of UNCLOS, adopted resolution A.738(18) on measures to prevent and suppress piracy and armed robbery against ships. In the resolution Governments were urged to recommend to vessels registered under their flags to take precautionary measures to avoid piratical attacks and to adopt procedures to be followed if they occurred, including in particular reporting immediately to the nearest or other appropriate rescue coordination centre and, if possible, to the coastal State as well as to the flag State concerned any such attacks or attempted attacks; and to establish and maintain close liaison with neighbouring States to facilitate the apprehension and conviction of all persons involved in piratical attacks.

189. The IMO Assembly also urged Governments of coastal States to make arrangements with coast earth stations to ensure prompt delivery of reports of piratical attacks to the authorities concerned. It invited Governments to consider using surveillance and detection techniques and acquiring the capability to prevent and respond to piratical attacks.

190. In the same resolution IMO invited Governments to develop and continue cooperation agreements with neighbouring States, as appropriate, including the coordination of patrol activities and of the response by rescue coordination centres. Governments were requested to instruct national centres or other agencies involved, on receiving a report of an attack, to promptly inform the local security forces so that contingency plans might be implemented and to warn ships in the immediate area of the attack.

191. The IMO Assembly also requested the Secretary-General of IMO to seek means of providing support from donor countries and international financial

institutions to Governments requesting technical and financial assistance in the prevention and suppression of piratical attacks. Finally, the Maritime Safety Committee was enjoined to keep the issue under continuous review and it has accordingly been included in IMO's Long-Term Work Plan.

192. IMO reported that, on the basis of resolution A.738(18), it had developed a comprehensive anti-piracy strategy consisting of compilation and distribution of periodical statistical reports, piracy seminars and field assessment missions to regions affected by piracy and the preparation of a code of practice for the investigation and prosecution of the crime of piracy and armed robbery against ships.

Periodic statistical reports

193. IMO compiles and distributes monthly, quarterly and annual reports on piracy and armed robbery against ships submitted by Governments and international organizations. Monthly reports list all incidents reported to the organization. Quarterly reports are composite reports accompanied by an analysis, on a regional basis, of the situation and an indication as to whether the frequency of incidents is increasing or decreasing and advising on any new feature or pattern of significance. Information on the number of incidents reported to IMO during the first 10 months of 2000 is provided in paras. 176-177.

Seminars, workshops and missions

194. IMO arranges seminars and workshops to explain the problem of piracy and armed robbery and the organization's recommendations on how to deal with them. In addition, it carries out field missions to assess the actions Governments take to implement the inputs of the anti-piracy projects. Mission members examine, together with the responsible governmental representatives, what measures the national authorities responsible for anti-piracy activities have taken to implement the relevant IMO guidelines, where such measures have not been successful and what has impeded their implementation and, eventually, how IMO might assist in overcoming any difficulties encountered in the process.

195. Such missions also include advisory services and "tabletop" exercises at the national level to assess and evaluate the results of previous relevant IMO activities. IMO noted that seminars, workshops and missions could only be organized if Governments and governmental and non-governmental organizations provided the necessary financial support for them.

Preparation of a code of practice for the investigation and prosecution of the crime of piracy and armed robbery against ships

196. MSC at its 73rd session approved the IMO draft Code of Practice for the Investigation of the Crimes of Piracy and Armed Robbery Against Ships.[52] The Code will be considered for adoption by the IMO Assembly at its 22nd session to be held from 19 to 30 November 2001.

197. The purpose of the draft Code of Practice is to provide IMO members with an aide mémoire to facilitate the investigation of the crimes of piracy and armed robbery against ships. The draft Code adopts the definition of piracy contained in article 101 of UNCLOS. Armed robbery against ships is defined as any unlawful act of violence or detention, or any act of depredation, or threat thereof, other than an act of piracy, directed against a ship or against persons or property on board, within a State's jurisdiction over such offences. The draft thus combines the geographical scope of jurisdiction over piracy, as laid down in UNCLOS with the jurisdiction over unlawful acts, as laid down in the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (1988 SUA Convention) and its Protocol (SUA Protocol).

198. The draft Code includes a recommendation that States take the necessary measures to establish their jurisdiction over the offences of piracy and armed robbery against ships, including adjustment of their legislation, if necessary, to enable the apprehension and prosecution of persons committing such offences. States are explicitly encouraged to ratify, adopt and implement UNCLOS and the SUA instruments.

199. In order to encourage masters to report all incidents of piracy and armed robbery against ships, the draft Code states that coastal and port States should make every effort to ensure that the masters and their ships are not unduly delayed or burdened with additional costs related to such reporting. Coastal States are encouraged to enter into bilateral or multilateral agreements to facilitate the investigation of piracy and armed robbery against ships.

200. The draft Code also contains provisions for the specific training of investigators intervening in acts of piracy or armed robbery during or after the event. It further lays down the main principles for an investigative strategy and lists the responsibilities of the investigators in such matters as preservation of life, prevention of the escape of offenders, warnings to other ships, protection of crime scenes and the securing of evidence. A final chapter on the investigation lists measures to be taken to establish and record all relevant facts, record individual witness accounts, conduct detailed forensic examinations of scenes and, searches of intelligence databases and oversee the distribution of information and intelligence to appropriate agencies. In accordance with the principle of proportionality informing the draft, action to be pursued should be proportionate to the crime committed and consistent with the laws that were violated.

(c) "Phantom ships"

201. IMO also reported that, in order to reduce hijackings and the number of "phantom ships", i.e., ships with fraudulent registration, certification and identification, MSC has begun the consideration of a draft IMO Assembly resolution encouraging flag States to ensure that proper checks were made when registering a ship. The Subcommittee on Flag State Implementation at its 9th session (February 2001), prepared a draft resolution on "Measures to prevent the registration of 'phantom ships'", to be submitted for adoption by the IMO Assembly at its 22nd session (November 2001).

3. Action at the regional level

202. The strengthening of regional cooperation is imperative to prevent and respond effectively to incidents of piracy and armed robbery against ships. In this regard, the IMO regional seminars and workshops for the South and Central American and Caribbean region (Brazil, October 1998), the South-East Asian region (Singapore, February 1999), the West African region (Nigeria, October 1999) and for selected countries in the Indian Ocean region (India, March 2000) had proved very valuable not only in reviewing the effectiveness of any countermeasures the participating countries had put in place, but also for regional cooperation in general. Since the conclusion of the IMO seminars and workshops, efforts have continued, in particular, among States in South-East Asia, to advance regional cooperation. Two high-level international conferences on combating piracy and armed robbery were held in Tokyo in March and April 2000 and resulted in the endorsement of the Tokyo Appeal and the adoption of the "Asia Anti-Piracy Challenges 2000", and a Model Action Plan.[53] An ASEAN Regional Forum Workshop on Anti-Piracy was held in India in October 2000 and an Experts Meeting on Combating Piracy and Armed Robbery against Ships was held in Malaysia in November 2000. The South-East Asian Programme in Ocean Law, Policy and Management (SEAPOL) Inter-Regional Conference on Ocean Governance and Sustainable Development in the East and Southeast Asian Seas: Challenges in the New Millennium (Thailand, 21-23 March 2001) was to devote one of its sessions to piracy and law enforcement, to discuss, inter alia, legal issues in piracy control, and piracy and the challenge of cooperative security and enforcement policy.

203. Cooperation in other regions is also being pursued. The High-level Meeting of five Coast Guard Agencies in the North-west Pacific Region was held in December 2000 to discuss ways of combating the illicit traffic in drugs and guns and piracy in the region. According to the Japanese news service Kyodo, national coast guard chiefs from Japan, the Republic of Korea, the Russian Federation and the United States attended the meeting.

204. Some of the main problem areas in dealing with pirates and armed robbers revealed as a result of the IMO expert missions[54] and the regional seminars and workshops in Brazil and Singapore were: the current economic situation in the regions concerned; certain resource constraints on law enforcement agencies; lack of communication and cooperation between the agencies involved; the length of the coastal State's response time following the affected ship's report of an incident; general problems of ship reporting; timely and proper investigation into reported incidents; the prosecution of pirates and armed robbers when apprehended; and lack of regional cooperation. The ASEAN Regional Forum (ARF) Workshop in October 2000 concluded that there was an urgent need for close coordination and cooperation among the maritime authorities and the law enforcement agencies of the States concerned to effectively curb piracy and armed robbery against ships; that piracy posed a transnational threat necessitating bilateral and regional arrangements

among the ARF member States to unify measures to combat piracy; and that efficient exchange of information and intelligence was necessary for the successful conclusion of the investigation and prosecution of apprehended pirates.[55] The participants at the experts meeting in Malaysia stressed the importance of the last-named issue and agreed to pursue the matter further; they also considered that it was also necessary to standardize the format for ships' reporting to enforcement agencies, to enable immediate action by the enforcement agencies.[56]

205. Several of the regional meetings also discussed and agreed to further pursue the working definitions of piracy and armed robbery against ships. In this regard, it should be noted that piracy is defined in article 101 of UNCLOS and armed robbery against ships has recently been defined in the IMO draft Code of Practice (see para. 197).

4. Recommended actions for Governments and the industry

206. An act of piracy or armed robbery against ships affects different national interests: that of the flag State of the ship, the State in whose maritime zone the attack took place, the State of suspected origin of the perpetrators, the State of nationality of persons on board, the State of ownership of cargo, and maybe also the State where the crime was prepared, planned, directed or controlled. In the Tokyo Appeal it was acknowledged that the issue of piracy and armed robbery against ships could not be resolved if the relevant authorities, the flag States and other substantially interested States and coastal States/port States, each took measures independently based on their individual positions; it could be tackled effectively only when such parties mutually coordinated and cooperated in a manner transcending their individual positions.

(a) Recommended actions for shipowners, ship operators, shipmasters and crews

207. Preparedness and action by shipping companies themselves is fundamental to the prevention of piracy and armed robbery against ships, for which IMO, the International Maritime Bureau, the Oil Companies International Marine Forum, the International Chamber of Shipping and the International Shipping Federation have all issued guidance materials.[57] The IMO Guidance to Shipowners and Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships (MSC Circular 623/Rev.1, dated 16 June 1999) outlines steps that should be taken to reduce the risks of an attack and possible responses to them. It states that ships need to have a ship security plan or an action plan detailing the actions to be taken in case of an attack. The MSC Circular highlights, inter alia, the vital need to report attacks, successful as well as unsuccessful ones, to the authorities of the relevant coastal State, generally the Rescue Coordination Centres, and to the ships' own maritime administration. Such reports should be made as soon as possible to enable necessary action to be taken. The Model Action Plan adopted at the Tokyo Conference (see para. 202) also underlined the importance of filing both immediate and post-attack reports. It further proposed the re-enforcement of self-protection measures on board ships, including the examination of the use of ship-position reporting technology and enhanced defensive equipment. The International Maritime Bureau has said that shipowners should consider the installation of SHIPLOC, a low-cost vessel tracking system, which claims to be capable of instant location of a vessel.

(b) Recommended actions for Governments

208. Most attacks against ships occur in the territorial sea and therefore do not constitute piracy as defined in UNCLOS. According to the International Maritime Bureau, "what makes piracy a tempting crime is the difficulty of effective law enforcement, and the unwillingness of many countries to prosecute pirates caught in their own territorial waters for acts of piracy committed under another country's jurisdiction." The Bureau uses the expression "piracy" also to describe acts of armed robbery against ships.

(i) National action plans

209. The IMO Recommendations to Governments for Preventing and Suppressing Piracy and Armed Robbery against Ships (MSC Circular 622/Rev.1, dated 16 June 1999) set out the necessary actions to be implemented by Governments within areas identified as affected by acts of piracy and armed robbery. Some of these recommendations are also included in the draft Code of Practice. Coastal States/port States are recommended to develop action plans for preventing an attack as well as steps to take in the event of an attack. Because of the possibility of collisions or groundings as a result of an

attack, coastal/port States are also recommended to develop plans to counter any subsequent oil spills or leakages of hazardous substances the ships may be carrying. This is especially important in areas of restricted navigation, for example, in straits used for international navigation, such as the straits of Malacca and Singapore. It should be noted that States may already have adopted measures for dealing with a pollution incident, either at the national level or in cooperation with other States, in implementation of the International Convention on Oil Preparedness, Response and Cooperation.

(ii) Rapid responses to reported incidents

210. The Model Action Plan adopted at the Tokyo Conference (see para. 202) proposed, inter alia, that each State should establish a system for communication and collaboration between relevant authorities within a Government to ensure that comprehensive and functional measures are taken in response to reports of incidents of piracy and armed robbery against ships.

211. In order to ensure efficient communication and cooperation between various agencies and a rapid response after an incident has been reported to the coastal State, including the promulgation of threat warnings, MSC Circular 622/Rev.1 recommends that States adopt an incident command system and incorporate therein existing mechanisms for dealing with other maritime security matters, e.g., illicit traffic in narcotic drugs and terrorism, to enable the efficient use of limited resources. It is also recommended that States develop procedures for rapidly relaying alerts from the receiving communication centre to the entity responsible for taking action. The IMO regional seminar and workshop held in India in March 2000 highlighted the potential use of vessel traffic separation (VTS) information in piracy and armed robbery attack situations. It also recommended that IMO should develop harmonized procedures and guidelines on communication means for alerting other ships in the area.

(iii) Investigations of incidents and exchange of information/intelligence

212. MSC Circular 622/Rev.1 and the draft Code of Practice state that, to encourage masters to report all incidents, coastal States should make every effort to ensure that masters and their ships are not unduly delayed. They should clearly establish an entity responsible for conducting investigations into reported incidents. The IMO draft Code lays down the principles for an investigative strategy. Coastal States are encouraged, where appropriate, to enter into bilateral or multilateral agreements to facilitate the investigation of piracy and armed robbery.

213. The draft Code also provides that it is important to involve relevant organizations (e.g., Interpol, International Maritime Bureau) at an early stage, where appropriate, to take account of the possibility that transnational organized crime may be involved. Additionally, an important product of an effective investigation, even if it does not lead to any arrests, should be the generation of intelligence, and systems should be in place to ensure that potentially useful intelligence information is disseminated to all appropriate parties. The Model Action Plan adopted at the Tokyo Conference proposed the establishment of an international network for the exchange and analysis of information. It was deemed important that in both intelligence and operational terms piracy should not be viewed in isolation, as pirates are most likely involved in other crimes, such as smuggling of migrants and illicit traffic in narcotic drugs. Anti-crime measures should be linked to minimize duplication of efforts.

(iv) Bilateral/regional/multilateral cooperation

214. MSC Circular 622/Rev.1 recommends that States sharing borders in areas threatened by piracy and armed robbery establish bilateral/regional cooperation arrangements to provide, inter alia, for the coordination of patrol activities by both ships and aircraft. Further development of such cooperation may involve an agreement to facilitate coordinated response at the tactical as well as the operational level. Such an agreement would specify how information would be disseminated; establish a regional incident command system; set policies for joint operations and entry and pursuit into each others territorial seas; establish links between the entities involved in all maritime security matters, etc. An example of such a regional agreement is appended to the Circular.

215. Cooperative arrangements may also be established with States outside the region, either at the bilateral level (a recent example includes an offer by Sweden to lend Malaysia four assault boats to help strengthen security in its waters)[58] or at the multilateral level. For example, Japan's coast guard patrol vessels

recently conducted joint exercises with the maritime authorities of India and Malaysia, and at the ASEAN workshop Japan offered to provide training to non-military personnel.[59] According to a 3 January 2001 Kyodo News Service report, "Japan is mulling an anti-piracy pact with [ASEAN] to allow Japanese maritime authorities to join international patrols in piracy-prone waters in South-East Asia." Government sources were quoted as saying that they expected the Diet to pass laws to allow direct involvement by Japanese vessels in anti-piracy patrols and in measures against smugglers and illegal immigrants.

216. At the IMO regional seminar and workshop held in India, the IMO Secretariat reported that some Governments and shipowners had suggested that an international naval force should be established under the auspices of the United Nations to patrol danger areas, while others had urged coastal States to take more action (MSC 73/14/1, para. 30).

(v) Jurisdiction

217. Both the IMO recommendations in MSC Circular 622/Rev.1 and the IMO draft Code of Practice recommend to States to take the necessary measures to establish their jurisdiction over the offences of piracy and armed robbery against ships, including adjustment of their legislation, if necessary, to enable apprehension and prosecution of persons committing such offences. States are explicitly encouraged in the draft Code to ratify, adopt and implement the 1988 SUA Convention and its Protocol (SUA Protocol).

218. As States are adjusting their legislation and establishing their jurisdiction over the offences of piracy and armed robbery against ships, it is important for there to be a common understanding among States of the applicable enforcement rights they have under international law with respect to acts of piracy and armed robbery against ships. It is also important for States to establish effective penalties in their laws.

219. The basic enforcement rights with respect to acts of piracy are contained in UNCLOS. Piracy is defined in its article 101, and article 105 grants States universal jurisdiction on the high seas to seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates, and arrest the persons and seize the property on board. The same rights apply also in the exclusive economic zone by virtue of article 58, paragraph 2. The definition of piracy in UNCLOS excludes the territorial sea. However, article 25 permits the coastal State to take the necessary steps in its territorial sea to prevent passage, which is not innocent. In accordance with article 27, the coastal State can exercise criminal jurisdiction against a foreign ship which engages in an act that disturbs the peace of the country or the good order of the territorial sea, or if the consequences of the crime extend to the coastal State.

220. Armed robbery against ships, as defined in the draft Code (see para. 197), constitutes an offence under article 3 of the 1988 SUA Convention, article 6 of which requires a State party to establish its jurisdiction when the offence is committed against or on board a ship flying its flag, in its territory, including its territorial sea, or by one of its nationals. The 1988 SUA Convention also permits a State, provided it has established its jurisdiction and notified IMO thereof, to exercise its jurisdiction if the offence has been committed by a stateless person whose habitual residence is in that State; or if one of its nationals is seized, threatened, injured or killed; or if the offence has been committed in an attempt to compel the State to do or abstain from doing any act. A State must establish its jurisdiction if the alleged offender is present in its territory and it has not extradited him to any of the States parties which have established their jurisdiction in accordance with the 1988 SUA Convention.

221. Unlike the 1988 SUA Convention, a State party is not required under the 2000 United Nations Convention against Organized Transnational Crime to establish its jurisdiction if the crime was committed against the ship or by one of its nationals. It is only required to take the necessary measures to establish its jurisdiction when the offence has been committed on board a ship flying its flag, or in the territory of that State (article 15). "Territory" is not defined, but is presumed to include the territorial sea. Article 4 of the Convention provides that nothing in the Convention entitles a State party to undertake in the territory of another State party the exercise of jurisdiction and performance of functions reserved exclusively for the authorities of the other State by its domestic law. States may wish to address the relationship between the provisions on jurisdiction in the 2000 United Nations Convention against Organized Transnational Crime and those in the 1988 SUA Convention and clarify which provisions they should use to suppress an act of armed

robbery against ships, which also constitutes an organized crime.

222. In order to promote a common understanding of States' enforcement rights under international law and provide guidance to them in drafting their national laws, it may be useful to identify the elements which should be included in national legislation, or, alternatively, to develop model national laws. The Comité Maritime International has been working on the development of a model national law on piracy and maritime violence and presented the results of its deliberations to the CMI International Conference in February 2001.[60]

(vi) Technical assistance

223. Some States may have difficulties in effectively implementing the recommendations contained in MSC Circular 622/Rev.1 and the IMO draft Code of Practice because they lack the necessary equipment and trained personnel. Lack of equipment, such as patrol boats, radar and radio communications, and of trained personnel have been identified as major obstacles to the functioning of the effective machinery to combat piracy and armed robbery at sea (IMO regional seminar and workshop, India, March 2000). The assistance other States can provide to either individual States or to an entire region affected by acts of piracy and armed robbery can take various forms, such as training of personnel, provision of equipment or funds, etc. As noted in paragraph 222, assistance to States can also include legal advice in the drafting of national laws, either through seminars, or by preparing elements for inclusion in national laws.

B. Smuggling of migrants

224. Global statistics show that the problem of smuggling of migrants is increasing. The demands for smugglers' services are increasing as potential emigrants become more desperate and less concerned with safety. As an example, on 16 February 2001, a Cambodian-registered vessel with a Syrian ship-owner ran aground and was abandoned off the coast of the Côte d'Azur of France with 800 Kurds on board. Poverty in the developing world and the tightening of legal immigration possibilities in many of the developed countries are among the root causes of much contemporary migration. Ever more smugglers are treating their cargo poorly, arranging transport which could under no circumstances be called safe and illegal migrants are themselves taking great risks. For example, it has been estimated that 120 people lost their lives attempting to cross the Strait of Gibraltar illegally in the first six months of 2000,[61] and as with all data, these numbers only represent those cases that have come to the attention of the authorities.[62] In response to the increased migration across the Strait, Spain has been working on a strategic plan for Sub-Saharan Africa, the main focus of which will be aid for development cooperation.[63]

225. The Commercial Crime Services of the International Chamber of Commerce have pointed out that the ingenious methods already in use for smuggling of migrants by sea are becoming more sophisticated. One of the preferred ways of circumventing normal barriers is by stowing stow away on a container ship; another is by signing on as a crew member. Another growing problem is the use of false documents by illegal immigrants. The problem has escalated as smuggling of migrants has become a big business. The International Group of P&I Clubs (protection and indemnity) currently spends approximately $10 million annually on fines and costs relating to illegal migrants. The actual cost is much higher, as shipowners pay substantial amounts themselves, due to higher deductibles on their protection/indemnity cover.[64]

226. IMO recalled the provisions of IMO Assembly resolution A.867(20), on combating unsafe practices associated with the trafficking or transport of migrants by sea, in which Governments were requested to detain all unsafe ships and report pertinent information to IMO (see A/55/61, para. 109). The Maritime Safety Committee at its 73rd session (November/December 2000) agreed to implement a reporting procedure similar to that for acts of piracy and armed robbery against ships to keep track of incidents of unsafe practices associated with the trafficking or transport of illegal migrants by sea. Governments and international organizations were urged to promptly report any such practices brought to their attention. The reports should include, where available, ship and shipowners details, voyage details, date, time and position of the incident, a description of the incident and measures taken, and information concerning the migrants, including number, nationality, break down by sex, and whether any were minors. Details of the reported incidents would be issued biannually in an IMO circular.

227. IMO also recalled that MSC at its 70th session (December 1998) had approved an MSC Circular (MSC/Circ.896) advising Governments what "Interim Measures for Combating Unsafe Practices Associated with the Trafficking or Transport of Migrants by Sea" they could take pending the entry into force of a convention against transnational organized crime and a protocol on smuggling of migrants (see also A/54/429, paras. 223-228, and A/55/61, paras. 111-113).

228. In this regard, attention is drawn to the adoption in 2000 of a legally binding instrument aimed at preventing and combating the smuggling of migrants by land, sea and air. The United Nations Centre for International Crime Prevention reported that the 2000 United Nations Convention against Organized Transnational Crime and the Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the above Convention, had been finalized by the Ad Hoc Committee for the elaboration of the Convention at its tenth and eleventh sessions, in July and October 2000, respectively. Both instruments had subsequently been adopted by the General Assembly on 15 November 2000 (resolution 55/25), and opened for signature at Palermo, Italy, on 12 December 2000. At the Palermo Conference, 128 States had signed the Convention, and 78 States the Protocol. The Convention and Protocol contain comprehensive measures against all forms of transnational organized crime.[65] Part II (articles 7-9) of the Protocol deals specifically with issues arising from the smuggling of migrants by sea. The provisions deal with the powers and procedures for dealing with vessels suspected of being engaged in the smuggling of migrants and the protection of the safety, security, rights and other interests of the vessels, those on board, flag States and other interested States. The United Nations Centre for International Crime Prevention reported that those provisions had been based on the 1988 United Nations Convention against the Illicit Traffic in Narcotic Drugs and Psychotropic Substances, UNCLOS and IMO Circular MSC/Circ.896.

229. In addition to the information provided by the United Nations Centre for International Crime Prevention, it should be noted that article 7 of the Protocol, entitled "Cooperation", follows closely the wording of article 17, paragraph 1, of the 1988 Convention. Under article 7, States parties are called upon to cooperate to the fullest extent possible to prevent and suppress the smuggling of migrants by sea, in accordance with the international law of the sea, which according to the interpretative notes is to be understood as including UNCLOS as well as other relevant international instruments.[66]

230. The provisions in the Protocol are intended to cover vessels "engaged" both directly and indirectly in the smuggling of migrants. Of particular concern during the negotiations was the inclusion of vessels ("mother ships") that transport smuggled migrants on open ocean voyages, but which are sometimes not apprehended until after the migrants have been transferred to smaller local vessels.

231. Article 8 (Measures against the smuggling of migrants by sea) follows closely the wording of article 17, paragraphs 2, 3, 7 and 8, of the 1988 Convention. It permits a State party, inter alia, to board, search or take other appropriate action against a vessel suspected of being engaged in the smuggling of migrants by sea. What is new, inter alia, is the incorporation in article 8, paragraph 1, of the Protocol of the reference to the right of a State under article 110, paragraph 1(e), of UNCLOS to take measures against a ship which, though flying a foreign flag or refusing to show a flag, is in reality of the same nationality as the State party concerned. A new paragraph has also been included in article 8 which specifically addresses the rights of States to take measures against ships without nationality. In this connection, attention is drawn to past reports of the Secretary-General which highlighted the need for States to have national legislation in place granting enforcement jurisdiction over ships without nationality (see, e.g., A/54/429, para. 221).

232. Article 9 (Safeguard clauses) of the Protocol follows closely the wording of article 17, paragraphs 5, 10 and 11, of the 1988 Convention as well as articles 94, paragraph 1, and 110, paragraph 3, of UNCLOS. What is new, inter alia, is the requirement for States parties, when taking measures against a vessel, to ensure the humane treatment of the persons on board, and to ensure within available means that any measure taken is environmentally sound.

233. The interpretative notes for the official records of the negotiation of the Protocol state that the *travaux préparatoires* should indicate that it is understood that the measures set forth in chapter II of the Protocol cannot be taken in the territorial sea of another State, except with the authorization of the coastal State concerned. During the negotiations it was felt that this

principle did not need to be restated in the Protocol, since it was well enshrined in the law of the sea.

234. Even though the Protocol has not yet entered into force, the question may be raised as to whether it is advisable for States to continue using the earlier IMO circular (see para. 227) as a basis for their action to prevent and suppress smuggling of migrants by sea, as opposed to the Protocol. Not only is the Protocol a binding legal instrument, which was adopted by the United Nations General Assembly and has already received a large number of signatures, but it also is linked to the 2000 United Nations Convention against Transnational Organized Crime, as well as to the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing that Convention.

C. Stowaways

235. According to the latest available report on stowaway incidents issued by IMO, 231 incidents were reported between 1 May to 30 September 2000 (FAL/Circ.61), bringing the total number reported since 1998 to 1,170.

236. At its 28th session (30 October-3 November 2000), the IMO Facilitation Committee noted that the continuing high number of stowaway incidents indicated that measures taken in ports and on board ships to prevent stowaways gaining access to ships ought to be strengthened. It agreed that the IMO Guidelines on the Allocation of Responsibilities to Seek the Successful Resolution of Stowaway Cases, adopted by the IMO Assembly in its resolution A.871(20) in 1997 (see A/55/61, paras. 115-116) were not strong enough to prevent stowaway cases and decided to incorporate stowaway regulations in the Convention on Facilitation of International Maritime Traffic, 1965. To that end, the Committee prepared and approved amendments to the Convention for adoption at its next session.[67] It also decided to scrutinize the Guidelines at a later stage to strengthen their content and invited Governments to submit proposals to the Committee at its next session.

237. IMO pointed out that the Guidelines advocate close cooperation between shipowners and port authorities and establish in detail the responsibilities of the master, the shipowner or operator, the country of the first scheduled port of call after the discovery of the stowaway (the port of disembarkation), the country where the stowaway first boarded the ship, the stowaway's apparent or claimed country of nationality, the flag State of the vessel and any countries of transit during repatriation. IMO also drew attention to the provisions of IMO Circular MSC/Circ.896 (see para. 227).

D. Illicit traffic in narcotic drugs and psychotropic substances

238. The United Nations International Drug Control Programme (UNDCP) stated that fundamental to the full implementation of the cooperative provisions of article 17 of the 1988 Convention was the need for States parties to designate a competent national authority, or as appropriate authorities, having the legal power to grant or deny authorization to another State party to board, search or take other appropriate action against a vessel suspected of illicit drug trafficking. States must, at the time of becoming a party to the Convention, designate an authority or authorities to receive and respond to requests and must notify the Secretary-General of the designation. The competent national authority needs to be able to respond expeditiously both to the request for verification of registry and to the request for consent to take action. UNDCP pointed out that full implementation of the cooperative provisions of article 17 has been hampered by the inability to verify registry quickly or by the fact that competent authorities have not been identified or lack the necessary legal powers to quickly grant or deny consent. Often small pleasure craft or fishing boats are not registered or States lack a single central registry.

239. The Commission on Narcotic Drugs in its resolution 43/5, entitled "Enhancing multilateral cooperation in combating illicit trafficking by sea", adopted at its forty-third session (March 2000), recognized the increasing prevalence of illicit traffic by sea of narcotic drugs and psychotropic substances. It encouraged Governments to develop regional agreements where appropriate and requested UNDCP to support the negotiation of such agreements. The Commission supported efforts of UNDCP to facilitate the coordination of practical ways to ensure effective suppression of maritime drug trafficking and encouraged States to review regularly and to communicate the names of their competent authorities

to the United Nations and to respond expeditiously to requests made pursuant to article 17 for verification of nationality and for consent to board, search and, if evidence of involvement in illicit traffic was found, to take appropriate action with respect to the vessel, persons and cargo on board.

240. An informal open-ended working group on maritime cooperation against illicit drug trafficking by sea was convened by UNDCP from 5 to 8 December 2000. The group examined current trends in illicit drug trafficking at sea, including the use of "go-fast" boats (speedboats), particularly in the Caribbean, and the use of containers to smuggle drugs. Both methods were seen as presenting special difficulties for law enforcement: "go-fast" boats because of their speed and the fact that they were rarely registered in any State, and containers because of the enormous volume of legitimate commerce by container and of the difficulty of searching them. The group also examined recent regional and subregional initiatives, including the consultations on a possible regional convention on maritime drug law enforcement for the Caribbean.

241. The working group identified a number of discussion points to bring to the attention of the Commission on Narcotic Drugs. Among the ideas proposed were the provision of equipment and training to developing countries, the exchange of information and intelligence, and cooperation between States in conducting joint operations and pooling equipment in appropriate circumstances. Consideration was given to the possibility of developing model reference forms and a user-friendly reference handbook for national competent authorities as a guide for receiving and making requests under article 17. The need to give special attention to the problem of the smuggling of drugs in containers and other commercial shipments was discussed, as well as the need to improve shore facilities. Finally, the group encouraged States to consider entering into agreements or arrangements on liability and compensation for any loss, damage or injury arising from actions taken pursuant to article 17.

242. IMO noted it had considered that the problem of drug trafficking in 1990 in the context of elaborating amendments to the Convention on Facilitation of International Maritime Traffic, 1965. Furthermore, in 1997, the IMO Assembly had adopted Guidelines for the prevention and suppression of the smuggling of drugs, psychotropic substances and precursor chemicals on ships engaged in international maritime traffic (see A/55/61, paras. 106 and 107).

VI. Marine resources, marine environment and sustainable development

A. Conservation and management of marine living resources

243. Overfishing in many parts of the world's oceans and seas has led the international community to take new actions over the past decade to restore sustainability in the use of fisheries resources and to commit itself to improved conservation and management of marine living resources for the sake of future generations. Such actions have included the adoption of the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (1993 Compliance Agreement), the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to Straddling Fish Stocks and Highly Migratory Fish Stocks (1995 Fish Stocks Agreement), the 1995 Code of Conduct for Responsible Fisheries,[68] and the three 1999 international plans of action for the Management of Fishing Capacity, for Reducing Incidental Catch of Seabirds in Longline Fisheries and for the Conservation and Management of Sharks.

244. However, efforts to improve the conservation and management of the world's fisheries have been confronted by the increase in illegal, unreported and unregulated fishing activities (IUU fishing) on the high seas, in contravention of conservation and management measures adopted by regional fisheries organizations and arrangements, and in areas under national jurisdiction in violation of coastal States' sovereign rights to conserve and manage marine living resources (see A/54/429, paras. 249-257; A/55/61, paras. 120-125). IUU fishing is perpetrated both by vessels of States members of regional fisheries management organizations, in some circumstances flying flags of convenience, as well as by vessels of States not members to these organizations. The problem is believed to have been aggravated by excess fleet capacity, the payment of government subsidies, strong

market demand for particular fish products and ineffective monitoring, control and surveillance.[69] The adverse effects of IUU fishing on the good governance of world's fisheries, as well as on the economies and food security of coastal States, particularly developing coastal States, have prompted the international community to take measures at the national, regional and global levels to combat it.

1. Actions to combat IUU fishing activities

(a) Actions at the global level

245. In the early1990s, the United Nations General Assembly called upon States to take the responsibility, consistent with their obligations under international law, to take measures to ensure that no fishing vessels entitled to fly their national flag fished in zones under the national jurisdiction of other States unless duly authorized by the coastal States concerned.[70] It subsequently extended the prohibition to unauthorized fishing activities on the high seas, stipulating that no flag States should allow vessels flying their flag to fish on the high seas unless duly authorized by them and that no fishing activities should take place in contravention of applicable conservation and management measures.[71] Moreover, the FAO Ministerial Conference on Fisheries, which met in Rome in March 1999, adopted a declaration requesting FAO to develop a global plan of action to deal effectively with all forms of IUU fishing. That request was endorsed by the United Nations Commission on Sustainable Development, meeting at its seventh session, in April 1999,[72] which also invited IMO and FAO to urgently develop measures to ensure that ships of all flag States meet international rules and standards to give effect to the relevant provisions of UNCLOS, especially article 91 on the nationality of ships.[73] Furthermore, the Consultative Process at its first meeting (A/55/274, para. 10) and the General Assembly at its fifty-fifth session made urgent calls to States, inter alia, to continue the development of an international plan of action against IUU fishing and invited them, as well as competent United Nations specialized agencies, to continue their cooperation to that end.[74]

Joint FAO/IMO ad hoc Working Group

246. In response to the above appeals, a Joint FAO/IMO Ad Hoc Working Group on IUU Fishing and Related Matters met in Rome in October 2000.[75] The outcome of this first meeting among members of the two specialized agencies contained a number of recommendations aimed at enhancing flag State and port State control over fishing vessels, with a view to eliminating the roots of IUU fishing.

247. With respect to flag State responsibilities, the Working Group agreed that there was a need for States, inter alia: (a) to enhance implementation of flag State responsibility and focus on fisheries issues, including through regional fisheries management organizations; (b) to ensure that the flag State linked the registration of a fishing vessel with the authorization to fish in national administrations; (c) to establish cooperation between the flag State and the coastal State when a vessel was fishing in areas under the jurisdiction of the coastal State, particularly to ensure that the flag State continued to exercise effective control over that vessel; (d) to avoid deregistering a vessel that failed to comply with the authorization to fish as the practice had the effect of "exporting" the problem; (e) to give effect to existing rights and obligations under international law and become parties to existing legal instruments relating to flag State control; and (f) to give consideration to the application to fishing vessels of the IMO number scheme to enable vessels to be traced regardless of changes in registration or name.

248. Concerning the need for flag States to continue exercising effective control over their vessels conducting fishing operations in the exclusive economic zones of other States, under UNCLOS, coastal States, as a corollary to their sovereign rights over natural resources, are entitled in their exclusive economic zones to take all measures against foreign fishing vessels, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by them in the area for the purpose of conserving and managing their marine living resources (article 73 (1)). However, enforcement powers of coastal States over the conduct of fishing operations in their exclusive economic zones, are without prejudice to the right of flag States to continue to exercise their jurisdiction and control in respect of administrative, technical and social matters pertaining to vessels flying their flag. It is therefore hoped that flag State control, with regard to administrative, technical and social matters, over their fishing vessels operating in the exclusive economic zones of coastal States will be directed towards giving

effect to their obligations to ensure the compliance by those vessels with fisheries laws and regulations in areas under the national jurisdiction of coastal States, in accordance with General Assembly resolution 49/116.

249. The Working Group also expressed the view that a more appropriate approach would be to address the possible key issues constituting effective flag State control of a fishing vessel, rather than attempting to define the concept of the genuine link between a vessel and the State whose flag it is flying.[76] While the conclusion may be valid for merchant shipping, one may argue that, if a foreign fishing vessel seeks registration or reflagging in another State, with which it does not have real links (as in the case of flag of convenience), and the State involved either does not participate in the implementation of management measures established by regional fisheries management organizations in a particular subregion or region or is known to lack the capacity to control fishing activities of vessels flying its flag, one may conclude that the main purpose of such registration or reflagging is to evade compliance with applicable fisheries conservation and management measures, which its flag State of origin would have otherwise enforced. Indeed, if by any chance such a State decided to require vessels flying its flag to abide by high seas conservation and management measures, it would be unlikely that it would be in a position to achieve prompt compliance, since it would lack the legal and economic leverage over the owners and operators of vessels flying its flag that allow it to compel such compliance.

250. Moreover, the Working Group concluded that port States, in the exercise of sovereignty over their ports in accordance with international law, were entitled, inter alia, to introduce domestic legislative measures to deal with foreign fishing vessels entering or leaving their ports. Such measures may relate to the control of vessels engaged in the trans-shipment and transport of fish or the resupply of fishing vessels, as they are subject to port State control with respect to maritime safety, pollution prevention and living and working conditions. At the international level, the Working Group encouraged FAO, in cooperation with relevant international organizations, to consider developing measures for port State control, with emphasis on the management of fisheries resources and taking into account IMO port State control procedures. The Working Group also agreed that the mechanism of Memoranda of Understanding relating to port State control of fishing vessels could be used as an effective tool for enhancing fisheries management.[77]

251. In addition, the recent adoption by the FAO Committee on Fisheries[78] of the International Plan of Action (IPOA) to Prevent, Deter and Eliminate IUU fishing for the purpose of complementing the existing international instruments so as to counter their ineffectiveness in addressing the phenomenon of IUU fishing, is a further milestone in the fight against IUU fishing.

The International Plan of Action (IPOA)

252. IPOA is an instrument of a voluntary character aimed at addressing the legal and economic dimensions of IUU fishing in an integrated manner, whereby flag States, port States and coastal States are invited to take measures at the national, regional or global level to combat illegal fishing activities. The Plan of Action contains provisions that address: (a) the nature and scope of IPOA, (b) the objective and principles of the Plan, (c) the key actions in combating IUU fishing, (d) the special requirements of developing countries, (e) reporting by States and regional fisheries organizations and (f) the role of FAO in support of the Plan of Action.

253. Another important feature of IPOA is the inclusion in its provisions of a definition of IUU fishing, which identifies and describes the constitutive elements of IUU fishing; "illegal fishing", "unreported fishing", or "unregulated fishing",[79] as undertaken either in areas under national jurisdiction or on the high seas.

254. The Plan of Action generally reaffirms the strengthening of the duties of flag States provided for in the Compliance Agreement (articles III and IV), the 1995 Fish Stocks Agreement (articles 18 and 19) and the Code of Conduct for Responsible Fisheries (article 8.2).

255. With regard to port State jurisdiction, IPOA provides that, in addition to the right of port States to conduct inspections and request information of foreign fishing vessels calling voluntarily at their ports or offshore terminals,[80] port States are entitled, prior to allowing fishing vessels access to their ports, to request a copy of their authorization to fish, details of their fishing trip and quantities of fish on board, with due regard to confidentiality requirements (IPOA, para.

45). With the exception of force majeure, these provisions would allow a port State to deny a fishing vessel access to its port facilities if it has reasonable grounds to believe that the vessel is engaged in IUU fishing. Another important feature of the IPOA is its invitation to port States to cooperate bilaterally and multilaterally, as well as within relevant regional fisheries management organizations, to develop compatible measures for port State control over fishing vessels (IPOA, para. 49).

256. With respect to the duties of coastal States vis-à-vis IUU fishing, IPOA encourages those States to regulate fishing access in areas under their jurisdiction in a manner that will help to prevent, deter and eliminate IUU fishing. To that end, they should enforce measures they have adopted or by which they are otherwise bound for the conservation and management of fish stocks, through monitoring, control and surveillance of fishing activities, and through cooperation with other States and regional fisheries management organizations.

257. Moreover, IPOA provides that all States should adopt multilateral trade-related measures consistent with international law, including the provisions of the World Trade Organization (WTO), and implement them in a fair, transparent and non-discriminatory manner, to prevent the trade or import into their territories of fish emanating from IUU fishing activities.

258. As to cooperation within regional fisheries management organizations, IPOA invites all States, members as well as non-members of those organizations, to enforce and ensure compliance with policies and measures on IUU fishing adopted by regional fisheries management organizations in conformity with international law. States are also called upon to take action to strengthen the role of these organizations in fisheries conservation and management in order to allow them to deter, prevent and eliminate IUU fishing. States are similarly encouraged to cooperate in the establishment of regional fisheries management organizations in regions where none exist.

259. The integrated approach adopted by the Plan of Action, if applied in good faith, may close the loopholes that in the past have hampered the international community in the prevention, deterrence and elimination of IUU fishing.

(b) Actions at the regional level

260. At the regional level, regional fisheries management organizations have developed measures to combat IUU fishing (see paras. 272-278), such as the adoption of enforcement and compliance schemes against the IUU fishing of non-contracting parties; market-related measures such as catch documentation schemes aimed at identifying the origin of the harvested fish, so as to regulate their sale; non-discriminatory trade-restrictive measures; and port State measures to control the landings of fish. These measures have been adopted by, inter alia, the International Commission for the Conservation of Atlantic Tunas (ICCAT),[81] the Northwest Atlantic Fisheries Organization (NAFO),[82] the North-East Atlantic Fisheries Commission (NEAFC),[83] the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)[84] and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)[85]. Other organizations[86] are examining the possibility of adopting these measures to supplement the often ineffective diplomatic protests lodged with the flag States of IUU fishing vessels sighted conducting fishing operations in their respective regulatory areas. Moreover, in the South Pacific region, the Forum Fisheries Agency (FFA) has developed an information system known as the Violations and Prosecutions (VAP) Database, which contains information on vessels that have been involved in violations of the fisheries laws of FFA member countries. The VAP Database would allow the licensing authorities of the coastal States to verify the historical compliance records of fishing vessels before granting them fishing licences.[87]

(c) Actions at the national level

261. Several States have taken steps to strengthen national measures against IUU fishing by revising national fisheries laws and related legislation to close "loopholes" that permit such practices to take place. They have also taken measures to implement the relevant provisions of the 1993 Compliance Agreement, the 1995 Fish Stocks Agreement and the 1995 Code of Conduct for Responsible Fisheries.

262. Many flag States, recognizing that effective flag State control is fundamental to fisheries management, have taken steps to ensure that fishing vessels entitled to fly their flag do not engage in any activity which undermines the effectiveness of international

conservation and management measures or in any activity that constitutes unauthorized fishing in areas under the national jurisdiction of other States. Measures have been introduced to prohibit fishing on the high seas without a proper authorization by the flag State. Such fishery regulations have been put into force by Denmark, Japan, Norway, Mauritius, the United States, Saudi Arabia, Panama, Uruguay, New Zealand, Mexico and Guyana (see A/53/473). Under some regulations, a fishing vessel may be registered or granted a licence only if sufficient links exist between the flag State and the vessel. Such requirements are found, for example, in the Mauritius Fisheries and Marine Resources Act of 1998, which provides that, in order to avoid the licensing of vessels of flag of convenience, only vessels wholly owned by the State of Mauritius, or owned by a corporation controlled at least 50 per cent by the State or by Mauritius citizens, can be licensed to fish on the high seas. Similarly, the Mexico Fisheries Act, among other provisions, prohibits reflagging and stipulates that the national flag may be granted only to vessels that have surrendered their flag of origin (see A/55/386).

263. Moreover, fisheries regulations in a growing number of States, provide that conditions for granting fishing permits to vessels for high seas fishing require compliance by vessels with applicable conservation and management measures (New Zealand Fisheries Act 1996 (Amendment No. 2), Guyana Revised Fisheries Legislation and United States High Seas Fishing Compliance Act of 1995) (see A/55/386). Most such fisheries laws (e.g., those of Japan, Guyana, Norway, Mexico and the United States) require flag States to maintain a record of fishing vessels entitled to fly their flag and authorized by them to fish on the high seas (see A/53/473 and A/55/386). They also provide that fishing vessels must be marked in accordance with the FAO Standard Specifications for the Marking and Identification of Fishing Vessels. Some of them even stipulate that licence applications may be denied or withdrawn if the vessel or its owner had taken part in IUU fishing on the high seas (Norway, United States) or if a previous licence for high seas fishing granted to the vessel by a foreign State, had been suspended or withdrawn because the vessel had undermined the effectiveness of international conservation and management measures (Guyana).

264. In addition, flag States have introduced provisions that make it mandatory for vessels flying their flag to submit catch reporting and other fishery data from their fishing operations or to have on board national observers or vessel monitoring systems as means of enhancing national monitoring, control and surveillance. Most of these fisheries regulations also provide for sanctions of sufficient severity for high seas fisheries violations, which may include suspension, withdrawal or cancellation of registration or fishing permits. Under other regulations fishing vessels which cease to be entitled to fly the national flag also lose their authorization to fish on the high seas. And some States (Japan, Norway) have placed restrictions on the export of vessels decommissioned from their national fishing fleets, to avoid exporting excess fishing capacity and reflagging (see A/55/386). While these laws and regulations significantly enhance flag States' control over vessels flying their flag, it is also believed that flag States' responsibilities must not be limited to ensuring compliance by fishing vessels flying their flag with agreed conservation and management measures, but should also encompass assistance in enforcement wherever allegations of violations occur.[88]

265. As part of their growing role in ensuring compliance with fisheries conservation and management, many port States exercise control in respect of foreign fishing vessels calling voluntarily at their ports or at offshore terminals through, inter alia, the monitoring of trans-shipments and landings and the collection of data on catch and effort (see A/52/555). They have also enacted national legislation establishing restrictions or prohibitions on landings or requiring the issuance of licences for fishing vessels to enter a port.[89] Under these laws, they have denied port access to vessels known to have engaged in IUU fishing or have closed off to their owners or operators access to markets by prohibiting landings to catches that have not been harvested in conformity with agreed regional conservation and management measures.[90] Of particular relevance are the Chilean Fisheries Law, which allows for the prohibition of landings, supplying of ships or other services in ports or in areas under national jurisdiction in respect of fishing vessels which have engaged in high seas activities that have an adverse impact on fishery conservation and management in the Chilean exclusive economic zone[91] (see cases before the International Tribunal for the Law of the Sea, paras. 442-443) as well as coastal States' legislation in force in the South Pacific which prohibits

the importation by a State of fish caught illegally in areas under the national jurisdiction of another State.[92]

266. For those who argue that port States restrictions may contravene the WTO Agreement on free trade, it is believed that such measures could qualify under the exceptions of the 1994 GATT rules under article XX (g), insofar as they are intended to promote the conservation of exhaustible natural resources.[93]

267. Many coastal States have taken measures to control foreign fishing operations in areas under their national jurisdiction through the adoption of laws and regulations governing fishing activities and the implementation of monitoring, control and surveillance systems for fishing operations in their exclusive economic zones. These include requirements for fishing authorization or fishing permits, types of gear, daily maintenance of logbooks, daily reportings of catch and vessel geographical positions, statistical data reporting, vessel monitoring system (VMS), prior authorization for trans-shipments at sea, obligation to land all or part of the catch, prohibition of discard of by-catches, and obligation to stow fishing gear when fishing vessels are in transit in areas under national jurisdiction.[94] They have also taken measures to enforce such fisheries laws and regulations in areas under their national jurisdiction.

268. However, for many developing coastal States, limited resources and the large size of the ocean space over which they exercise control have had an adverse impact on their ability to enforce their conservation and management measures against IUU fishing. For these countries, IUU fishing has been able to be carried out through, inter alia, the use of flags of convenience, illegal fishing on the ocean areas between the exclusive economic zones and the high seas, and misreporting of catch. Developing coastal States dependent on access fees for their economic development are particularly vulnerable because of distortions to fee levels, which are conditional upon the volume of catch.[95]

269. Consequently, in regions such as the South Pacific, coastal States have established a regional register of foreign vessels with a common database of all relevant information about vessels, updated annually, and containing information about their owners, operators and masters, call sign and port of registry. The regional register is used not only as a source of information on fishing vessels but also as a tool to ensure compliance with coastal States' laws and regulations. Under the scheme, no fishing vessel can be licensed unless it has good standing on the regional register. In addition, coastal States have taken measures to harmonize the terms and conditions of access, so that fishing vessels are not subject to different regulatory regimes in the exclusive economic zones of coastal States of the same region or subregion. These include provisions for licensing; prohibition of trans-shipment at sea; maintenance of catch logbook data and other information; access by authorized officers of the licensing State; regular catch reporting; use of observers; requirements for vessel marking and identification; and the requirement of the use of a satellite-based vessel monitoring system (VMS). Coastal States have also established cooperation within the framework of the Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement, which permits a party, through a subsidiary agreement, to extend its fisheries surveillance and law enforcement activities to the territorial sea and archipelagic waters of another party, thereby allowing a cross-jurisdictional exercise of enforcement powers by each party's surveillance and enforcement officers.

270. Under UNCLOS, however, the exercise by coastal States of their sovereign rights in areas under their national jurisdiction shall not impede the freedoms of navigation and communications of all ships in the exclusive economic zones (article 58). Thus, the practice of some coastal States of requiring notification by foreign fishing vessels when transiting the exclusive economic zone[96] is considered to be inconsistent with the right of navigation recognized to all vessels in the zone, as provided in article 58 of UNCLOS. In addition, since the exercise by coastal States of their sovereign rights over marine resources is subject in UNCLOS to a *ratione loci* competence, i.e., limited to a clearly defined area, it is believed that the legislation of some States which implements their conservation and management measures with respect to straddling fish stocks and highly migratory fish stocks in the adjacent high seas areas beyond their exclusive economic zones,[97] is inconsistent with the relevant provisions of the Convention.

(d) Other developments

271. The seriousness of IUU fishing is reflected in two judgements rendered by the International Tribunal for the Law of the Sea in 2000 in cases involving applications for the prompt release of vessels alleged to

have fished illegally in the exclusive economic zone of a coastal State: The *Camouco* case (*Panama* v. *France*) (see A/55/61, paras. 250-257) and the *Monte Confurco* case (*Seychelles* v. *France*) (see paras. 435-441). In both cases, the Tribunal has "taken note of the gravity of the alleged offences"[98] as well as the "the general context of unlawful fishing in the region"[99] pointed out by France, as among the factors to be considered in the assessment of the reasonableness of bonds or other financial security.

2. Review of the role of regional fisheries management organizations in fishery conservation and management

272. UNCLOS imposes upon States a general obligation to cooperate in the implementation of the legal framework provided in the Convention. With respect to the conservation and management of marine living resources, it stresses the critical role played by regional fisheries management organizations (see annex IV to the present report) in regional fisheries governance and as forums for cooperation in all aspects of fisheries conservation and management. In the exclusive economic zone, articles 61(2), (3) and (5); 63; 64(1); 65; and 66 of UNCLOS provide that the coastal State and competent international organizations shall ensure that marine living resources are not endangered by overexploitation. The Convention also invites States to cooperate within subregional, regional or global organizations, as the case may be, for the conservation and management of straddling stocks, shared stocks, anadromous stocks, highly migratory species and marine mammals. On the high seas, articles 118 and 119 of UNCLOS require States to cooperate within regional fisheries management organizations for the conservation of high seas marine living resources and, where no such organization exists in a particular subregion or region, to establish one as a forum for their cooperation.

273. Regional fisheries management organizations have only been variably successful in conserving the resources under their competence, owing, inter alia, to the inadequacies of their mandates and their inability to enforce their own management decisions. These organizations have also been confronted with such fisheries issues as overfishing; insufficiency of scientific advice; inadequacy of monitoring, control and surveillance; weakness of the decision-making process; non-compliance by members of management decisions; and IUU fishing by members and non-members. Nonetheless, a number of these fishery bodies and arrangements have started to work within the legal framework provided for in UNCLOS for the conservation and management of marine living resources, and have undertaken to strengthen their role in fisheries management, as required by developments[100] in international fisheries law. These developments require the international community, inter alia, to ensure the long-term sustainability of marine living resources, apply the precautionary approach, follow an ecosystem-based management approach, emphasize scientific advice, stress the importance of the collection and exchange of adequate data, implement effective monitoring, control and surveillance systems, agree on decision-making procedures which facilitate the timely adoption of conservation and management measures and evolve effective mechanisms for settlement of disputes.

274. To this end, a number of FAO regional fishery bodies have already strengthened their functions and responsibilities, strengthening their role from advisory to regulatory bodies. For instance, the General Fisheries Council for the Mediterranean (GFCM) has amended its establishing Agreement and its rules of procedure, renamed itself a Commission and opted for an autonomous budget. It has established also a Scientific Advisory Committee to obtain scientific advice in the management of Mediterranean fisheries.[101] At its sessions in 1999 and 2000, the GFCM Scientific Advisory Committee addressed such issues as the definition of management units, definition of parameters for measuring fishing effort, identification of the actual state of resources and methodologies for determining such status, as well as the definition of required fleet data to be included in the regional register of vessels, as a necessary starting point to monitor fishing effort.[102] In addition, the Asia-Pacific Fishery Commission (APFIC) has also amended its constitution and updated its terms of reference to take into full account the recent fundamental changes in world fisheries and, in particular, to be equipped to play its role in the implementation of UNCLOS and in the promotion of the Code of Conduct for Responsible Fisheries. APFIC agreed that its future programmes should be more specific and pragmatic, assisting members to move closer towards self-reliance in sustainable fisheries.[103]

275. In the Indian Ocean region, the Indian Ocean Tuna Commission (IOTC) has also endeavoured to strengthen its role in the conservation and management of highly migratory fish stocks in its area of competence. On the advice of its Scientific Committee, it has implemented mandatory requirements for IOTC members to provide a timely, standardized statistical data for catch, effort and size for all species covered by the Commission,[104] as well as data for catches of non-target species. It has also recommended a substantial reduction of the fishing capacity of distant long-line tuna fleets operating in the region, as well as registration and exchange of information on vessels, including flag-of-convenience vessels fishing for tropical tunas in IOTC areas of competence.

276. Non-FAO regional fishery bodies and arrangements have also implemented or are in the process of implementing the new approaches to fisheries conservation and management. For example, ICCAT, NAFO and NEAFC have considered developing the precautionary approach as a tool for fisheries management.[105] The ecosystem-based approach[106] and precautionary total allowable catch[107] have already been integrated into the fisheries conservation and management programmes of CCAMLR and CCSBT.[108] Moreover, a number of other regional fisheries management organizations have adopted schemes to enforce their conservation and management measures.

277. As expected, these new trends have been incorporated in recent agreements establishing new regional fisheries management organizations or arrangements in various regions of the world. Especially noteworthy among these are the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific,[109] the Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean[110] and the Framework Agreement for the Conservation of Living Marine Resources on the High Seas of the South-East Pacific ("Galapagos Agreement"),[111] which contain provisions underlining the requirement of long-term sustainability of fish stocks, compatibility of measures within and beyond areas under national jurisdiction, ecosystem-based management and application of the precautionary approach, as well the important role of scientific information in fisheries management. These new agreements also include strong provisions enhancing flag States' responsibilities as required in the FAO Compliance Agreement, as well as monitoring, control and surveillance and enforcement schemes involving reciprocal boarding and inspection by States parties and port State measures modelled along those in the 1995 Fish Stocks Agreement.

278. However, despite the strengthened role of regional fisheries management organizations in regional fisheries governance, progress is being hindered by, inter alia, the failure by States to accept and implement relevant international instruments, a lack of willingness by those States to delegate sufficient responsibility to regional bodies and the lack of the effective enforcement of management measures at both national and regional levels.[112] The performance of many regional fisheries management organizations is also adversely affected by inadequate financial resources, particularly in respect of FAO fishery bodies, ineffective decision-making procedures which allow non-compliance by members with management decisions, and IUU fishing by vessels flying flags of convenience.

3. Conservation and management of marine mammals

279. Catch limits for commercial whaling, allocation of minke whales to Japan, elements of the Revised Management Scheme (RMS), catch limits for aboriginal subsistence whaling in the Bering-Chukchi-Beaufort Seas, the Eastern North Pacific, West Greenland, East Greenland and in the Caribbean Sea, the status of whales, scientific permit catches by Japan and whale killing methods were among the main topics of discussion at the fifty-second annual meeting of the International Whaling Commission, held at Adelaide, Australia, from 3 to 6 July 2000.[113]

280. Concerning the contentious issue of commercial whaling, no consensus could be reached once again to break the deadlock between the States parties opposing the resumption of commercial whaling and those in favour of such resumption.[114]

281. In other developments, the North Atlantic Marine Mammal Commission (NAMMCO) held its tenth annual meeting in Sandefjord, Norway, from 25 to 28 September 2000. The meeting considered the report of Scientific Committee on the status of marine mammals under NAMMCO management.[115] Following a review of the state of whales under its competence, the

Commission recommended that, in view of the depleted status of the West Greenland beluga, which required severe reductions in catch, closer links should be developed between NAMMCO and the Canada/Greenland Joint Commission on Conservation and Management of Narwhal and Beluga (JCNB) which has the competence to provide management advice for the stock. The Commission also requested the Scientific Committee to evaluate the migration patterns of West Greenland narwhal in Baffin Bay and Davis Strait and to monitor developments with regard to the Faeroese fin whales and dolphins.[116]

282. With respect to the economic aspects of marine mammal/fishery interactions, NAMMCO recommended that the Scientific Committee should proceed with its programme to develop multi-species economic models for candidate species and areas in the investigation of the problem, using for this purpose the Barents/Norwegian Seas and the area around Iceland. As to the collection of data on marine mammal by-catch, it endorsed the efforts undertaken by countries to establish mandatory logbook data collection systems and decided to initiate a system of by-catch reporting for NAMMCO member countries through the national progress reports, starting with data on numbers and species comprising marine mammal by-catch in fisheries.[117]

4. Marine and coastal biodiversity

283. The fifth meeting of the Conference of the Parties to the Convention on Biological Diversity was held at Nairobi from 15 to 26 May 2000 for the biennial review of the implementation of the Convention. In carrying out the marine component of its activities, the Conference adopted decision V/3 relating to its programme of work on marine and coastal biological diversity,[118] to assist in the implementation of the Jakarta Mandate on Marine and Coastal Biodiversity, in accordance with decision II/10.

284. It will be recalled that the Jakarta Mandate consisted originally of five thematic areas: integrated marine and coastal management (IMCAM); marine and coastal protected areas; marine and coastal living resources; mariculture; and alien species. The issue of coral reefs was added to the programme of work by the Conference of the Parties in its decision IV/5 adopted at its fourth meeting.

285. With respect to coral bleaching, the Conference of the Parties was of the view that since climate change was its primary cause, the United Nations Framework Convention on Climate Change ought to take actions to reduce the effects of changes in water temperatures and address the socio-economic impacts on the countries and communities most affected by coral bleaching. All States and relevant bodies were also urged to implement measures which would address the issue of coral bleaching, through information-gathering, policy development, financial assistance and capacity-building (see paras. 489-492).

286. In addition, the Conference requested the Secretariat of the Convention on Biological Diversity to integrate coral bleaching fully into its programme of work on the conservation and sustainable use of marine and coastal biological diversity and to develop and implement a specific work plan thereon. It also invited the Biodiversity Convention Secretariat's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to include in its study of coral bleaching, the effects of the physical degradation and destruction of coral reefs as a threat to the biological diversity of coral reef ecosystems.

287. Experts have indicated in complementary findings that, in addition to climate change, destructive fishing practices, and the socio-economic conditions in coastal communities also contribute to coral reef degradation. They therefore suggested that activities that create wealth or add value in coastal areas, such as tourism, aquaculture and manufacturing, with due attention to environmental protection, could alleviate pressure on coral reefs.[119]

288. With regard to IMCAM, the Conference endorsed further work for the development of guidelines for coastal areas, taking into account the ecosystem approach, and encouraged SBSTTA to continue its work on ecosystem evaluation and assessment, inter alia, through the elaboration of guidelines on evaluation and indicators.

289. Regarding the management of marine and coastal living resources, the Conference requested the Biodiversity Convention Secretariat to gather information on approaches to the management of marine and coastal living resources currently in use by local and indigenous communities, and to disseminate that information through the clearing house mechanism. SBSTTA was invited to consider and

prioritize, as appropriate, such issues as the use of unsustainable fishing practices; the failure to use marine and coastal protected areas for the management of living resources; the economic value of marine and coastal resources; and capacity-building for stock assessment and economic evaluation purposes. The subsidiary body was also requested to provide advice on scientific, technical and technological matters related to the issue of marine and coastal genetic resources.

290. As to the issues of alien species and genotypes, the Conference of the Parties requested the Biodiversity Convention Secretariat to make use of existing information, expertise and best practices on alien species in the marine environment in the implementation of the work programme on alien species under decision IV/1 C of the fourth Conference of the Parties. The Conference also approved the terms of reference and duration of work specified for the ad hoc technical experts on marine and coastal protected areas and mariculture, as recommended by SBSTTA,[120] and invited the Biodiversity Convention Secretariat to strengthen its cooperation with global organizations and coordinate with regional seas conventions and action plans in the implementation of the Jakarta Mandate.

291. On the subject of mariculture, the Conference requested the ad hoc technical experts to devise guidance on criteria, methods and techniques to avoid the adverse effects of mariculture on marine and coastal biodiversity. To this end, it might be suggested that due consideration should be given by the experts to the issue of the genetic interaction between farmed and wild fish stocks caused by mariculture escapees. Indeed, it is believed that such genetic interaction may enhance the risk of decreasing the natural genetic variability of one or more species, through the introduction in the wild of a great number of individuals presenting a higher inbreeding level resulting from domestication or from the practice of breeding programmes.[121]

B. Non-living marine resources

1. Offshore hydrocarbons

292. With the increasing demand for oil and gas, offshore exploration and development have been moving into deep-water areas and into the frontiers in remote and difficult places where little search and discovery activities have taken place in the past.

293. The move of the offshore oil and gas industry to deeper waters is reflected in the recent records set for water depth — 6,079 feet (1,853 metres) for offshore production, and 8,016 feet (2,443 metres) for offshore exploration drilling — both by Petrobras of Brazil. Globally, the offshore oil and gas industry has three major deep-water "plays", areas where exploration and production are under way: the Gulf of Mexico, Brazil and West Africa. Beyond these "big three" areas, other countries are also intensifying their deep-water activities. Indonesia and Egypt have recently made substantial finds in their relatively unexplored deep-water areas. Israel, Malaysia and India have made their first deep-water discoveries. Other countries such as Turkey, Australia, New Zealand and Norway are continuing their deep-water search. Denmark (Faroe Islands), Greenland and Guyana may also have deep-water prospects.

294. With huge reserves of oil and natural gas beneath frigid seas, the Russian Arctic is one of the last frontiers for offshore hydrocarbons. The year 2000 witnessed initiatives on the part of oil and gas companies of the Russian Federation, the United States, France and Germany relating to the development of the Russian Arctic deposits.

295. While the delimitation of maritime boundaries remained in many cases a potential source of conflict with regard to offshore oil and gas development, during the reporting period there have been a number of constructive efforts among the parties involved to arrive at a mutually beneficial resolution (see paras. 41-47).

Oil and gas installations

296. Ageing or damaged offshore facilities pose a number of challenges to the offshore oil and gas industry as well as to the government regulatory agencies (see A/55/61, paras. 145-146; A/54/429, paras. 345-360). An Asia-Pacific Economic Cooperation (APEC) workshop, co-sponsored by China and the United States, on assessing and maintaining the integrity of existing offshore facilities, was held at Beijing in October 2000, with the participation of about 150 representatives from China, the United States, Australia, Mexico, Malaysia and other countries. The aim of the workshop was to deepen

understanding of the assessment and mitigation process for ageing and damaged offshore facilities in order to sustain safe operation, secure environmental quality and maintain efficient use of petroleum resources.

Methane hydrates

297. Methane hydrates, solid ice-like substances composed of water and natural gas (methane), occur in areas of the world's oceans where appropriate conditions of temperature and pressure cause water and methane to combine to form a solid. With time, as conventional oil and gas reserves decline, methane hydrates are expected to become an economically important source of hydrocarbons. Thought is currently being given to using methane as a starting material for more complex molecules to use as liquid fuels and lubricants, and for the manufacture of key chemicals.

298. Scientific studies of the economic geology of methane hydrates and preliminary studies on the economic feasibility of methane hydrate production indicate that deposits spread in a thin layer across large areas may be less economically productive than thick vertically stacked deposits limited to smaller areas. The methane hydrate deposits in the Blake Plateau off the Atlantic seaboard of the United States represent the former, while the deposits in the Gulf of Mexico and in deep-water off West Africa are an instance of the latter. Thick deposits form in leaky oil and gas basins where hydrocarbons seep to the sea floor, rapidly crystallizing as gas hydrates.

2. Non-fuel minerals

299. In June 2000, an international workshop held under the auspices of the International Seabed Authority in Kingston, Jamaica, provided a unique opportunity for scientists, technologists, policy makers and representatives of the marine mining industry from both public and private sectors to review the global marine mineral situation and assess the challenges and prospects of marine mining. Over 60 participants from 34 countries, from developed and developing countries as well as countries in transition, attended the week-long workshop. Although the workshop focused on "Mineral resources of the international seabed area", since scientific, technical, economic and environmental issues traverse boundaries, all marine minerals were addressed.[122]

300. The development of conventional marine minerals and our knowledge of new types of marine minerals are expanding rapidly, enhancing prospects for significant current as well as potential economic returns.

301. Conventional marine minerals comprise those minerals derived by mechanical and chemical erosion from rocks on continents and transported to the ocean primarily by rivers. Minerals derived by mechanical erosion from continental rocks are concentrated into placer deposits, which are sorted by waves, tides, and currents by virtue of the relatively high density (mass per unit volume) of the constituent minerals. These minerals contain heavy metals (barium, chromium, gold, iron, rare-earth elements, tin, thorium, tungsten and zirconium) and non-metals (diamonds, lime, siliceous sand and gravel). Of the metals, gold is mined intermittently offshore Alaska depending on price (currently inactive) and tin continues to be mined at sites offshore Thailand, Myanmar and Indonesia. Of the non-metals, a growing diamond mining industry exists offshore (water depths to 200 metres; distance to about 100 kilometres) Namibia and the adjacent coast of South Africa, with recovery of 514,000 carats reported for 1999 by the principal producer (De Beers Marine). Sand and gravel are mined from beaches and shallow offshore accumulations at various sites around the world for construction material (concrete) and beach restoration as the marine material with the highest annual production value.

302. In November 2000, the Government of Namibia and De Beers signed four agreements aimed at substantially increasing the offshore diamond production of Namibia over the next decade, with a resulting growth in national income and government revenue. The long-term agreements involve the Namibian Diamond Corporation (NAMBEB), an equal partnership between the Namibian Government and De Beers, and are expected to secure the future of Namibia's diamond industry in an increasingly competitive international diamond market. Namibia's offshore reserves consist principally of high-quality diamonds. Moreover, industrial-scale marine diamond mining is relatively free of the perils associated with smuggling.

303. Materials dissolved from continental rocks by chemical weathering and transported to the ocean by rivers is considered to provide the source for several marine minerals of future use. One of these resources is

phosphorite, which precipitates in the form of nodules and layers where sea water upwells from the deep ocean at the continental shelf within the trade wind belt (30° latitude north and south of the equator). Phosphorite is used as an agricultural fertilizer.

304. Two groups of metallic mineral resources of the deep seafloor incorporate dissolved metals from both continental and deep ocean sources. One such group is the golf-to-tennis-sized polymetallic nodules (nickel, cobalt, iron, and manganese in varying concentrations). These nodules have precipitated from sea water over millions of years as sediment on vast expanses of the abyssal plains of the deep ocean (water depth 4 to 5 kilometres). The most promising of these deposits in terms of nodule abundance and metal concentration are found in the Clarion-Clipperton zone of the eastern equatorial Pacific between Hawaii and Central America, an area that has been licensed by pioneer investors; another prospective area lies in the Indian Ocean.

Cobalt-rich ferromanganese crusts

305. Cobalt-rich ferromanganese crusts are the second group of metallic mineral resources that incorporates metals from both land and sea sources. They precipitate from sea water as thin layers (up to 25 centimetres thick) on volcanic rocks of seamounts and submerged volcanic mountain ranges between water depths of 400 and 4,000 metres. The most favourable settings for the occurrence of these crusts lie within and beyond the 200-nautical-mile zones of the island nations of the Western Pacific. It is estimated that one seabed mine site could complement land production to meet up to 25 per cent of the annual global need for cobalt (used to make corrosion-resistant, light and strong metal alloys, and paints) contingent on development of mining and refining technology.

Polymetallic nodules

306. Polymetallic nodules, like cobalt-rich ferromanganese crusts and polymetallic sulphides (see para. 316), occur on the seabed and ocean floor within national jurisdiction as well as in the Area i.e., the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction (the international seabed area).

307. The International Seabed Authority is the organization through which States parties to UNCLOS shall, in accordance with Part XI of UNCLOS, the related annexes and the Agreement on Part XI of UNCLOS, organize and control activities in the Area, in particular with a view to administering the resources of the Area. The Authority came into existence upon the entry into force of the Convention in 1994. Its headquarters are located in Kingston, Jamaica.[123]

308. Details about the work of the Authority may be found in the annual reports of the Secretary-General of the Authority to the General Assembly and on the Authority's web site at www.isa.org.jm. The most recent such report was presented to the Authority at its sixth session in July 2000 (ISBA/6/A/9). Among the most significant achievements of the Authority are the approval, in 1997, of plans of work for exploration for polymetallic nodules of seven registered pioneer investors and the approval by the Assembly of the Authority during its sixth session in July 2000 of the Regulations for prospecting and exploration for polymetallic nodules in the Area (ISBA/6/A/18). The approval of the Regulations will enable the Authority to issue 15-year exploration contracts, in accordance with the regime established by the Convention and the Agreement, to each of the seven registered pioneer investors.[124] It is expected that such contracts will be issued during 2001.

309. During 2000, the Assembly of the Authority completed the first periodic review, pursuant to article 154 of UNCLOS, of the manner in which the international regime for the Area has operated in practice. In carrying out its review, the Assembly noted that the regime established by UNCLOS had been subjected to de facto review and modification both by the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea in its work, in particular relating to the elaboration of the rules of procedure for the various organs of the Authority and the registration of pioneer investors, and in the informal consultations of the Secretary-General leading to the adoption of the Agreement on Part XI of UNCLOS. The Assembly further noted that the first four years of operation of the Authority had been primarily devoted to consideration of the organizational issues necessary for the proper functioning of the Authority as an autonomous international organization. While the Authority had commenced its operational and substantive activities, the Assembly considered that, in the light of the Authority's very short experience in implementing the

regime, it would be premature to make any recommendations concerning measures to improve the operation of the regime (ISBA/6/A/19, para.8).

310. The adoption by the Authority of the Regulations on prospecting and exploration for polymetallic nodules is an important milestone towards commercial exploitation of deep-sea minerals in the Area. UNCLOS stipulates that the Area and its resources are the common heritage of mankind. Exploration for and exploitation of the resources of the Area are to be carried out for the benefit of mankind as a whole; equitable sharing of financial and economic benefits derived from such activities is provided for in article 140 of UNCLOS. The Regulations are the first segment of a so-called "seabed mining code" that will eventually govern exploration for and exploitation of all deep-sea minerals in the Area. The regulations set out the provisions that prospective seabed miners, on the one hand, and the Authority, on the other, must follow in any work to locate and evaluate deposits of nodules rich in valuable metals such as nickel, copper, cobalt and manganese. Regulations governing the exploitation of nodules will be drawn up in due time.

311. The 40 regulations and four annexes were worked out over four years. Different rules are provided for prospecting and for exploration. Prospecting, defined as the search for deposits, including estimates of composition and value, confers no exclusive rights and requires little more than notification to the Authority of where the activity will take place. Exploration, defined to cover searching, analysis, tests of collecting and processing equipment and systems and commercial and other studies, does involve exclusive rights in a geographical area no other operator can work in. Exploration cannot take place until the Council of the Authority has approved a plan of work submitted by an operator and specified in a contract with the Authority. The Regulations also cover such matters as procedures to be followed by operators, fees, application for approval of plans of work for exploration, contracts for exploration and settlement of disputes.

312. In the drafting of the Regulations, most of the time was spent on fleshing out and reaching compromises on provisions in two areas: protection and preservation of the marine environment and safeguards for confidential data and information to be supplied to the Authority by the operators. Delegates sought to reconcile the need to safeguard the marine environment against potential threats of pollution from the activities of the operators and other damage with the need to encourage seabed investors by avoiding over-regulation. They also sought to ensure that the Authority obtained enough information from operators to evaluate and monitor their activities, while ensuring that commercially valuable data did not leak out to potential competitors.

313. The Authority will begin work at its forthcoming seventh session on regulations on prospecting and exploration for minerals that were just being discovered as UNCLOS was being drawn up (the seventh session of the Authority will be held at Kingston, Jamaica, from 2 to 13 July 2001). These are polymetallic sulphides (also referred to as polymetallic massive sulphides or sea-floor massive sulphides) and cobalt-rich ferromanganese crusts.

314. ECLAC reported that, in respect of non-living marine resources, the focus of ECLAC in 2000 had been the regional follow-up to the work of the Authority and the provision of technical inputs for the negotiation and future implementation of the Regulations on prospecting and exploration for polymetallic nodules in the Area. In this context, ECLAC had published a study on the negotiation at the International Seabed Authority entitled: "A renewed opportunity for the contribution from the Latin American and the Caribbean Group".

315. National efforts to benefit from polymetallic nodules in the exclusive economic zone include those of the Cook Islands, which has recently established the National Research Institute. The main task of the Institute is to accelerate the development of polymetallic nodules in the exclusive economic zone of the Cook Islands. In mid-2000, the Government of the Cook Islands and the Norwegian Deep Seabed Mining Group signed a letter of intent which provided for the start-up of phase I of a polymetallic nodule project in August 2000. The phase lasted for four months and involved a business case study to determine the economic viability of mining the nodule deposits off the coast of the Cook Islands. The Cook Islands nodules are known to have a high abundance (estimated at 14 billion tons) and a high cobalt content, and are found in relatively obstacle-free ocean floor. These factors could make deep-sea mining in the Cook Islands attractive. Phase I of the project also evaluated the need to build up support institutions, formulate laws and regulations and study the environmental impacts of mining. The phase was completed in

November 2000 and a team of researchers from the Norwegian Group was expected to visit the Cook Islands and report on the findings.

Polymetallic sulphides

316. Polymetallic massive sulphides are types of deposits discovered in the oceans in 1979; they contain copper, iron, zinc, silver and gold. They are deposited from sea-floor hot springs that are heated by molten rocks that upwell beneath a submerged volcanic mountain range that extends through all the ocean basins of the world (water depth 1 to 4 kilometres). At the current early stage, when only about 5 per cent of the seabed has been systematically explored, about 100 such sites have been found, mostly associated with volcanic island chains that border the western margin of the Pacific Ocean. Polymetallic massive sulphide deposits constitute resources for the future. One such site actively forming on the floor of the Bismarck Sea within the 200-nautical-mile zone of Papua New Guinea was leased in 1997 from that Government by an Australian mining company and is under development for mining.

317. Sea-floor hot springs not only concentrate metals, but also provide chemical energy used by microbes to manufacture their food at the base of a food chain that supports an ecosystem of new life forms hosted in the metallic mineral deposits. This ecosystem is of scientific and commercial value in sustaining biodiversity, elucidating the early evolution of life and producing novel organic compounds valuable for industrial and pharmaceutical applications. The coincidence of non-living and living resources poses the challenge to develop a regime that enables the sustainable development of both resources while protecting the ecosystems.

318. Scientists have recently discovered a field of hydrothermal vents with "chimneys" of carbonate and silica, potentially a new source of marine minerals. Their carbonate and silica composition differentiates them from the hydrothermal vents associated with polymetallic sulphides, whose chimneys are formed from sulphur- and iron-based minerals. The new chimneys are also the tallest ever found, nearly 200 feet tall.

319. As pointed out by South Pacific Geoscience Commission (SOPAC), major constraints to the development and exploitation of deep-sea mineral deposits continue to be the need to develop suitable and cost-effective mining technology and to resolve the legal and boundary issues related to the ownership of the resources. With regard to the issues of deep-sea mineral exploration licences, SOPAC indicates that support from the international community is urgently needed to assist national and regional efforts in the Pacific to assess resource information and to develop appropriate policies and legislative regimes for this activity. As it is a recent development, national capacity needs to be built to ensure that deep-sea mineral exploration is managed, regulated and monitored effectively.

C. Protection and preservation of the marine environment

1. Reduction and control of pollution

(a) Land-based activities: the Global Programme of Action[125]

320. It is recalled that by its 1999 decision 20/19 B, the UNEP Governing Council decided to convene the first intergovernmental review of the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA), which will be held in Montreal, Canada, from 19 to 23 November 2001, and requested the UNEP Executive Director to organize, in cooperation with Governments, United Nations bodies and agencies and other relevant organizations, an expert group meeting to facilitate the preparation for the review. In keeping with that request, an Expert Group Meeting to prepare for the first Intergovernmental Review Meeting on implementation of the GPA was held at The Hague, from 26 to 28 April 2000.

321. The experts noted that since the adoption of the GPA in November 1995 positive developments had taken place related to the protection of the marine and coastal environment in some regions, which had contributed to the implementation of the GPA.

322. The low level of participation in the Expert Group Meeting, which was attended by only two of the six United Nations agencies dealing with the implementation of GPA — UNESCO/IOC and United Nations Centre for Human Settlements (Habitat), was noted with concern.

323. In addition, the Expert Group Meeting also established a GPA Correspondence Group and recommended that the Executive Director of UNEP consider the establishment of a Steering Committee to advise UNEP on the intergovernmental review process and the 2001 Review Meeting. Accordingly, the GPA Coordination Office drafted two documents, which were circulated for comments to the GPA Correspondence Group and others: one outlining the proposed preparatory process and the expected specific products of the Intergovernmental Review Meeting, and the other a draft GPA High-Level Statement.

324. The major goal of the Intergovernmental Review Meeting is to secure commitments from a full range of partners (including Governments, international and regional governmental and non-governmental organizations, the private sector, international financing institutions, regional banks and commissions, civil society and other major groups) to advance GPA implementation, based on defined specific activities, targets and financial agreements. The Meeting also aims at mobilizing awareness and active participation and involvement of relevant stakeholders at the national, regional and global levels. The specific objectives of the Meeting, in keeping with paragraph 77 of the GPA, are: (a) to review progress on the implementation of the GPA at the national, regional and global levels; (b) to review the results of scientific assessments regarding land-based impacts upon the marine environment provided by relevant scientific organizations and institutions, including GESAMP (see paras. 597-603); (c) to consider reports on national plans to implement the GPA; (d) to review coordination and collaboration among organizations and institutions, regional and global, with relevant responsibilities and experience; (e) to promote the exchange of experience between regions; (f) to review progress in capacity-building and mobilization of resources to support the implementation of the GPA, in particular in countries in need of assistance, and where appropriate, to provide guidance; and (g) to consider the need for international rules, recommended practices and procedures to further the objectives of the GPA.

325. With respect to reporting by United Nations agencies to the Intergovernmental Review Meeting and, in particular, the Subcommittee on Oceans and Coastal Areas (SOCA) of the Administrative Committee on Coordination (see paras. 586-596), UNEP and SOCA agreed that each agency would submit by 31 March 2001 to the Coordination Office (a) a list of GPA-relevant projects, either using the United Nations Atlas of the Oceans or another vehicle, and (b) a report on their activities (including problems encountered, limitations and recommendations) in support of implementation of the GPA. The individual inputs of the agencies would be consolidated into a single report by the GPA Coordination Office and circulated to the agencies for comments. The final document would constitute the collective input of the members of SOCA to the GPA Intergovernmental Review Meeting and would be attached to the GPA Ministerial/High Level Declaration, which would emanate from the Meeting.

326. The central node of the GPA clearing-house mechanism (www.gpa.unep.org) continues to be expanded with the addition of new content, the reorganization of some elements to improve ease of use and the enhancement and development of new functionality. Progress is also being achieved with other clearing-house initiatives, including the development of the pollutant-source category nodes by the relevant United Nations agencies, the development of regional prototype nodes and the acquisition of support and resources for additional activities. It is intended that the GPA clearing-house mechanism will be fully compliant with new UNEP-wide information management initiatives (UNEP.NET).

327. Pollutant source category nodes in various fields have been developed or are currently under development. These include the sewage clearing-house node, being developed with WHO and core partners; the nutrients and sediment mobilization clearing-house node, with FAO; the oils (hydrocarbons) and litter clearing-house node, with IMO (Government of Canada, OSPAR and the Swedish Environmental Protection Agency); the radioactive substances clearing-house node, with IAEA; the persistent organic pollutants (POPs), with UNEP Chemicals (Geneva); the physical alterations and destruction of habitats clearing-house node, being developed with the Biodiversity Convention Secretariat, the regional seas programmes and UNEP; and the heavy metals clearing-house node, being developed with UNEP Chemicals (Geneva).

328. The GPA Coordination Office is also initiating regional clearing-house activities in partnership with the regional seas programme. Two pilot projects have been ongoing since late 1999, one in collaboration with

the South Pacific Regional Environment Programme (SPREP) and the other with the Caribbean Environment Programme. The needs evaluation and work plan for the South Pacific have almost been finalized. The next stage will entail developing a prototype node and obtaining the necessary funding and support to implement the work plan. The needs evaluation and work plan have been completed for the Caribbean Environment Programme and a prototype node has been developed. Assuming the availability of potential donor and partner support, funding and support are being sought to initiate GPA clearing-house developments in other regional seas areas in early 2001.

329. Two recent regional assessments or overviews of land-based activities (available electronically through the GPA clearing-house (www.gpa.unep.org)), have been published: (a) Overview of land-based sources and activities affecting the marine environment in the East Asian seas (Regional Seas Report and Studies Series No. 173); and (b) Overview of land-based pollutant sources and activities affecting the marine, coastal and freshwater environment in the Pacific Islands region (Regional Seas Report and Studies Series No. 174). In addition, The Coordinating Office has established close collaborative links with the non-UNEP regional seas programme of the Helsinki Commission for Baltic Marine Environment Protection (HELCOM) (see paras. 386-387), the OSPAR Commission (for the North Atlantic) (see paras. 388-389) and the Protection of the Arctic Marine Environment (PAME) (see paras. 390-392) with the aim of exchanging information and experiences, receiving their contributions to the 2001 Intergovernmental Review and linking with their respective web sites and "twinning".

330. In the Pacific region, a recent assessment as part of the region's response to the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities identified the major source categories of marine pollution as domestic waste; agricultural; industrial; and physical alterations/habitat modifications, degradation and destruction, including dredging, sand extraction and seabed mining. In this connection, a work programme for 2002-2006 to further GPA implementation is being developed by the GPA Coordination Office together with the SPREP, which will act as the GPA regional focal point for the Programme. The same type of programme during the indicated period is being carried out for the region of the wider Caribbean, with Caribbean/Regional Coordination Unit, acting as the GPA regional focal point.

331. At the national level, a joint GEF/GPA project proposal for the development and implementation of national programmes of action on land-based activities, such as tourism, ports and harbours, bays and estuaries, in 20 countries (Brazil, Colombia, Costa Rica, Democratic People's Republic of Korea, Egypt, Georgia, India, Indonesia, Jamaica, Jordan, Panama, Saudi Arabia, Seychelles, Sri Lanka, Sudan, Philippines, Republic of Korea, United Republic of Tanzania, Vanuatu and Yemen), within the framework of the regional seas programme, is being finalized for submission to GEF.

332. At the first Meeting of the Consultative Process (see paras. 612-615), the GPA Coordination Office was invited to give a presentation during Discussion Panel B on "Economic and Social Impacts of Marine Pollution and Degradation, especially in coastal areas: International aspects of combating them".

333. During the period under review, the GPA Coordination Office contributed to and participated in several forums in which consideration was given to the preparations for the GPA Intergovernmental Review Meeting:

- High-level Government-designated Expert Meeting of the Proposed Northeast Pacific Regional Seas Programme, Panama, 5-8 September 2000, which considered the draft of a regional Convention for the Protection and Sustainable Development of the Marine and Coastal Areas (a significant component of the draft Convention is pollution from land-based activities);
- Coastal Zone Canada Conference, Saint John, 17-22 September 2000, where two GPA-related sessions were organized, one on lessons learned and moving to GPA implementation within the context of the Intergovernmental Review Meeting, and another on municipal wastewater;
- International Ocean Institute Leadership Seminar on Mediterranean Basin-wide Co-development and Security, Malta, 21-22 September 2000, where, as a follow-up, the secretariat of the Mediterranean Action Plan (MAP) and the GPA

Coordination Office have agreed on, inter alia, the input of the Mediterranean region into the GPA Intergovernmental Review, the participation of MAP in the Steering Committees of two GEF/GPA medium-size projects, forward "twinning" arrangements with other regional seas programmes to facilitate GPA implementation and implementation of the Jakarta Mandate with the Convention on Biological Diversity Secretariat;

- Third Global Meeting of Regional Seas Conventions and Action Plans, Monaco, 5-10 November 2000, in which secretariats of 17 regional seas programmes agreed to take the lead, together with the GPA Coordination Office, in the regional preparatory process leading to the GPA Intergovernmental Review Meeting, to strengthen the programmatic links with GPA activities and to work together with the GPA Coordinating Office and the Biodiversity Convention Secretariat in addressing GPA requirements on physical alteration and destruction of habitats (see paras. 378-382);
- Fifth Global Forum of the Water Supply and Sanitation Collaborative Council (WSSCC), Iguaçu, Brazil, November 2000, where the Recommendations for Decision-Making on Municipal Wastewater (developed jointly by the GPA Coordination Office, WHO, Habitat and WSSCC) were presented;
- North-West Pacific Intergovernmental Meeting, Tokyo, 3–4 December 2000, which agreed on the development of a regional programme of action on land-based activities.

(b) Pollution by dumping; waste management

334. It is estimated that dumping contributes to 10 per cent of the potential pollutants in the oceans. Control of pollution of the marine environment by dumping is dependent on finding solutions to problems engendered by land-based sources of marine pollution and proper waste management in general.

335. The United Nations General Assembly at its fifty-fifth regular session (2000) in its resolution on oceans and the law of the sea reiterated its concern about the degradation of the marine environment as a result of pollution by dumping of hazardous waste, including radioactive materials, nuclear waste and dangerous chemicals, and urged States to take all practicable steps, in accordance with the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), to prevent the pollution of the marine environment by dumping. The Assembly once again called upon States to become parties to and to implement the 1996 Protocol to the 1972 Convention.

336. As of January 2001, there were 78 Contracting Parties to the London Convention, and 13 States had ratified the 1996 Protocol. A number of countries have informed IMO that they will soon ratify or accede to the Protocol,[126] and it is thus likely that the Protocol will enter into force during 2002 (26 ratifications or accessions are required for its entry into force, of which 15 must come from Contracting Parties to the London Convention). IMO pointed out that once the Protocol comes into force, there would be a transitional period during which both the 1972 and the 1996 regimes would be in operation. Governments still party to the Convention should become parties to the Protocol as soon as possible to ensure that the 1972 Convention is entirely replaced by the 1996 Protocol as the sole international global regime regulating the dumping of wastes at sea.

337. *Relationship between the 1996 Protocol, the 1972 London Convention and UNCLOS*. The regime set out in 1996 Protocol is stricter than that of the 1972 London Convention. The 1996 Protocol, inter alia, prohibits the dumping of all wastes or other matter with the exception of certain materials listed in the annex, i.e., dredged material, sewage sludge, fish waste or material resulting from industrial fish processing operations, vessels, platforms or other man-made structures at sea, inert, inorganic geological material, organic material of natural origin, bulky items comprising iron, steel, concrete, etc.

338. States parties to UNCLOS, which are party to neither the 1996 Protocol nor the 1972 Convention are faced with the question of whether it is the 1996 Protocol or the 1972 London Convention which contains the global rules and standards referred to in articles 210 and 216 of UNCLOS, and therefore sets the minimum standard for the national laws and regulations which parties to UNCLOS must adopt and enforce, irrespective of whether they are also party to the 1972 Convention or the 1996 Protocol.

339. *Waste assessment guidance*. Guidelines for the assessment of each of the eight wastes permitted to be

dumped under the 1996 Protocol (see para. 337), were adopted by the Contracting Parties to the London Convention at the twenty-second Consultative Meeting (September 2000). The Guidelines, which can also be applied to the wastes allowed to be dumped under the London Convention,[127] give a stepwise orientation to ensure that sufficient scientific and technical advice is collected to select appropriate waste management options and assess implementation of the chosen option.

340. The Contracting Parties agreed to keep the Guidelines under review and update them in five years, or earlier as warranted in the light of new technical developments and the results of scientific research. The adequacy of the existing international provisions for the disposal of vessels at sea would be reviewed in four years time, particularly in the light of the experience with implementing the waste-specific guidelines for the assessment of vessels as adopted by the Contracting Parties.

341. *Implementation of and compliance with the London Convention*. It is difficult to assess the current extent of dumping at sea by States. Information provided by the Secretariat to the Consultative Meeting indicates that only a small percentage of Contracting Parties to the London Convention have been meeting their notification and reporting requirements under article VI (4) of the Convention and sent reports to the Secretariat on their dumping activities from 1976 to 1998.[128] Indeed, the initiative taken in 2000 by the Contracting Parties to address the problem (see A/55/61, paras. 162-164), namely the circulation of a questionnaire (LC.2/Circ.403) to all Contracting Parties requesting information on areas possibly presenting barriers to compliance, was met with a low return. Only 15 out of 78 Contracting Parties sent a response, thus making it impossible to draw a firm conclusion on the views and needs of States with regard to compliance. At the twenty-second Consultative Meeting, the Contracting Parties requested the Secretariat to communicate with the States concerned once again to encourage them to respond to the questionnaire and to submit their reports as a matter of urgency.

342. IMO reported that other initiatives to improve compliance with the Convention included development of guidance for States on the implementation of the 1996 Protocol, including the establishment of a Correspondence Group to prepare a proposal for the adoption of such guidance at the next Consultative Meeting; the development of a proposal for a scheme to obtain funds for various projects to facilitate compliance with the London Convention; and reporting on "illegal dumping activities".

343. The Consultative Meeting viewed technical cooperation as a critical component in promoting the Convention and the Protocol and agreed, inter alia, to develop a long-term strategy for technical cooperation, to improve coordination with other international organizations, e.g., UNEP, and to intensify outreach to States wishing to join the Protocol.

344. *Radioactive waste management*. The London Convention prohibits the disposal at sea of radioactive wastes. The International Atomic Energy Agency stated that all materials, including those which can be disposed at sea in accordance with the Convention, contain radionuclides, of both natural and artificial origin. At the request of the London Convention Secretariat, IAEA developed definitions and criteria for making judgements on whether materials considered for dumping at sea could be treated as essentially "non-radioactive" for the purposes of the London Convention. Its advice on the matter was presented in IAEA-TECDOC-1068, published in March 1999 (see A/54/429, para. 392). At the twenty-second Consultative Meeting of the Contracting Parties (September 2000), IAEA presented another document entitled "Guidance on Radiological Assessment Procedures to Determine if Materials for Disposal at Sea are within the Scope of the London Convention 1972", which further elaborates IAEA's advice on the subject. The final report, to be published in 2001, contains guidance on how to perform an assessment to determine if levels of radioactivity in materials to be disposed of at sea meet the exemption criteria established in IAEA-TECDOC-1068.

345. IAEA reported that it had been working for some years on assembling information on all inputs of radioactivity into the world oceans. A report on the disposal at sea of radioactive waste was published in August 1999 (IAEA-TECDOC-1105) (see A/55/61, para. 165). A second report on accidents and losses at sea resulting in actual or potential release of radioactive material into the marine environment as well as accidents and losses where the radioactive material had been recovered intact was presented at the twenty-second Consultative Meeting and is also to be published in 2001. The information gathered on the

inputs of radioactive material into the oceans is incorporated into the IAEA Clearing House on Radioactive Substances, which will be linked to the GPA node (see paras. 326-327). A new database, the Global Marine Radioactivity Database (GLOMARD), has also been created. It covers the distribution of radionuclides in the Atlantic, Pacific, Indian and Southern oceans and has been extensively used for the development of time series of the worldwide distribution of radionuclides in seawater and sediment.

(c) Pollution from vessels

346. Some pollutants, such as oil, noxious liquid substances, sewage, garbage, anti-fouling paints or unwanted aquatic organisms, are released into the marine environment by ships in the course of their routine operations, either as a result of accidents, or illegally. However, most pollutants enter the marine environment as a result of routine operational discharges. As much as 92 per cent of all oil spills involving tankers occur at the terminal during loading or unloading.

347. UNCLOS regulates pollution from ships by requiring States, acting through the competent international organization or a general diplomatic conference, to establish international rules and standards to prevent, reduce and control the pollution of the marine environment from vessels and to re-examine them from time to time as necessary. For the flag State such global rules and standards constitute the minimum standard which it must adopt for vessels flying its flag. Coastal States can adopt stricter rules and standards than the generally accepted global standards for application in their territorial sea, so long as such standards do not apply to the design, construction, manning or equipment of foreign ships or hamper innocent passage. In the exclusive economic zone, the generally accepted international rules and standards apply.

348. Apart from the IMO safety-related conventions, which are critical for the prevention of accidents (see sect. IV.B of the present report), the generally accepted international rules and standards for the prevention of pollution from vessels are mainly contained in MARPOL 73/78 (see para. 101). That Convention sets out where and under what conditions a vessel may discharge oil (Annex I), noxious liquid substances (Annex II), sewage (Annex IV) and garbage (Annex V). Annex III to MARPOL 73/78 contains regulations for the prevention of pollution by harmful substances carried by sea in packaged form. Instruments on controlling the use of harmful anti-fouling systems and on ballast water management are currently being developed by IMO (see paras. 360-367).

349. At its fifty-fifth session (2000), the General Assembly in its resolution on oceans and the law of the sea reiterated its concern about the degradation of the marine environment as a result of pollution from ships, in particular through the illegal release of oil and other harmful substances, and urged States to take all practicable steps, in accordance with MARPOL 73/78, to prevent the pollution of the marine environment from ships.

(i) Developments in relation to the MARPOL annexes

Entry into force of amendments in 2001

350. The amendments to Annexes I and II adopted by the IMO Marine Environment Protection Committee in July 1999 (resolution MEPC.78(43); see A/54/429, para. 401) entered into force on 1 January 2001. The amendments to Annex III adopted in resolution MEPC.84(44) in March 2000 will enter into force on 1 July 2001.[129]

New amendments adopted in 2000

351. Apart from the above-mentioned amendments to Annex III, new amendments to MARPOL Annex V were adopted by MEPC at its forty-fifth session, in October 2000 (resolution MEPC.89(45)) and are expected to enter into force on 1 March 2002 under the system of tacit acceptance of amendments. They include, inter alia, an update of the definition of "nearest land" and the addition of incinerator ashes as discharges from plastic products, which may contain toxic or heavy metal residues, to the list of materials, whose disposal is prohibited. And in its resolution MEPC.92(45),[130] MEPC amended the Revised Guidelines for the Implementation of Annex V.

Phasing-out of single-hull tankers

352. As a result of the sinking of the *Erika*, much of the attention of the shipping community during the reporting period has focused on examining the adequacy of existing global rules and standards, and in the context of MARPOL, the current timetable phasing out single-hull tankers. IMO reported that MEPC at its

forty-fifth session had approved the first, formal step towards a global timetable for the accelerated phasing-out of single-hull oil tankers, thereby enabling the adoption of a revised regulation 13G of MARPOL at the forty-sixth session of MEPC, the dates of which had already been moved forward to April 2001 to permit the swiftest possible introduction of the new rules.[131]

353. IMO reported that the draft revised text of regulation 13G as developed by an MEPC working group set out two clear alternative schemes, A and B, for phasing out single-hull tankers. Both schemes would see category 1 vessels (oil tankers of more than 20,000 dwt, which do not comply with the requirements for protectively located segregated ballast tanks (commonly known as pre-MARPOL tankers)) phased out progressively between 1 January 2003 and 1 January 2007, depending on their year of delivery. Category 2 tankers (same size as category 1 tankers, but complying with the protectively located segregated ballast tank requirements (MARPOL tankers)), built in 1986 or earlier would be phased out after their 25th year of operation under both schemes, but category 2 ships built after 1986 would be phased out between 2012 and 2015 under alternative A and between 2012 and 2017 under alternative B. For category 3 tankers (oil tankers with less tonnage than category 1 and 2 tankers) built in or before 1987, both schemes entail progressive phasing-out of tankers between 2003 and 2013, but ships built after 1987 would be phased out between 2013 and 2015 for ships under scheme A and between 2013 and 2017 under scheme B. The continued operation of category 1 and 2 oil tankers beyond 2005 and 2010, respectively, would only be permitted for ships which had been subject to a Condition Assessment Scheme.

354. IMO stated that there was general agreement at the MEPC that the phasing-out of single-hull tankers should be seen as just one of several measures needed to help eliminate sub-standard tankers. The working group therefore drew up a preliminary list of topics to be considered in this regard. The Committee invited the Maritime Safety Committee to establish a working group at MSC 73 (November/December 2000), to examine fully all the measures listed and, initially, to separate the list into maritime safety and environmentally related issues. MSC would also request the technical subcommittees to develop relevant issues further and report to MEPC and MSC with a proposed implementation plan.

355. IMO reported that most delegations had cautiously welcomed the proposed revision of regulation 13G; many had expressed their approval of the constructive spirit in which the meeting had addressed the issue.

Pollution from fishing vessels and small craft

356. Fishing vessels have been identified in many countries and by many projects as a major source of marine pollution through the release of marine debris, discarded fishing nets and waste to the marine environment. Another difficulty is said to arise from unregulated carriage and refuelling at sea to support fishing activities. At the Workshop entitled "The Prevention of Marine Pollution in the Asia-Pacific Region" (Townsville, Australia, 7-12 May 2000),[132] it was noted that these problems were compounded by a relatively low level of awareness of the problems of marine pollution in many fishing communities and should be the targets of focused education and awareness-raising programmes. The Workshop also observed that small craft, including yachts and other recreational vessels, posed threats to the marine environment since they were sources of debris and waste and might carry marine pests.

357. The United Nations General Assembly in its resolution 55/8 of 30 October 2000, entitled "Large-scale pelagic drift-net fishing, unauthorized fishing in zones of national jurisdiction and on the high seas, fisheries by-catch and discards, and other developments", called upon FAO, IMO, regional and subregional fisheries management organizations and arrangements and other appropriate intergovernmental organizations to take up, as a matter of priority, the issue of marine debris as it relates to fisheries and, where appropriate, to promote better coordination and help States to fully implement relevant international agreements, including Annex V of MARPOL and the Guidelines for the Implementation of Annex V.

358. Other possible responses to the problem of marine debris, in particular from derelict fishing gear, which have been put forward include the establishment of an international plan of action to prevent the discard, minimize the loss and maximize the recovery of fishing gear[133] and the enhancement of the effectiveness of MARPOL Annex V by integrating into the annex itself

the provisions of the Guidelines for the Implementation of Annex V relating to discarded or lost fishing gear, in particular those for reporting and recording discarded or lost fishing gear and shipboard operational waste.[134]

(ii) Progress in the drafting of new instruments

359. Two other major areas of focus by IMO during the period under review have been the control of harmful anti-fouling systems and ballast water management and their regulation at the global level.

Draft international convention on the control of harmful anti-fouling systems

360. IMO reported that MEPC had approved in principle the draft International Convention on the Control of Harmful Anti-fouling Systems,[135] which had been elaborated pursuant to IMO Assembly resolution A.895(21), "Anti-fouling systems used on ships", adopted in November 1999, which had called on MEPC to develop an instrument, legally binding throughout the world, to address the problem. The resolution had called for a global prohibition on the application of organotin compounds acting as biocides in anti-fouling systems on ships by 1 January 2003, and a complete prohibition on the presence of such compounds by 1 January 2008. A number of issues, including entry-into-force criteria, remained open for discussion before the Conference scheduled to be held in October 2001 to adopt the convention.

361. Under the terms of the proposed new Convention, parties would be required to prohibit and/or restrict the use of harmful anti-fouling systems on ships flying their flag. The Convention would apply to all ships; ships above a certain size (to be determined) would be required to have their anti-fouling systems surveyed and to carry an anti-fouling certificate. Anti-fouling systems to be prohibited or controlled would be listed in annex I to the Convention. Initially, the annex would include a reference to "organotin compounds which act as biocides in anti-fouling systems".

362. The Convention would allow for additional substances to be included in the annex and set out a procedure therefor: a proposal to prohibit or restrict a particular substance would be put before an expert group established by IMO which would assess the adverse affects of the particular anti-fouling system. The Convention would provide an agreed format for an international anti-fouling certificate and set out procedures for survey and certification.

363. Further to the information provided by IMO, attention is drawn to two of the articles in the draft Convention, which are currently within square brackets. If the existing wording of the draft article entitled "Dispute settlement" is adopted, parties can choose the means for the peaceful settlement of disputes, which include the dispute settlement procedures in UNCLOS. However, if the current wording of the draft article entitled "Relationship to international law and other agreements" were adopted, it would provide that nothing in the Convention shall prejudice the rights and obligations of any State under customary international law as reflected in UNCLOS or under any existing international agreement. The advisability of referring to UNCLOS as a mere reflection of customary international law is questionable, in view of the annual call by the General Assembly to all States that have not done so to become parties to UNCLOS in order to achieve the goal of universality. It is also not clear what is intended by the reference to "any existing international agreement", especially since UNCLOS also meets that description.

Harmful aquatic organisms in ballast water

364. It is estimated that about 10 billion tons of ballast water are transferred globally each year, potentially transferring from one location to another species of marine life that may prove ecologically harmful when released into a non-native environment. A new initiative to respond to this severe environmental problem is the Global Ballast Water Management Programme (GloBallast). This IMO/GEF/UNDP project entitled "Removal of Barriers to Effective Implementation of Ballast Water Control and Management Measures in Developing Countries" is intended to help countries implement effective measures to control the introduction of unwanted aquatic organisms (see para. 583, and also the web site of GloBallast at http://globallast.imo.org).

365. Another response to the problem is the development of mandatory regulations. IMO reported on the progress made by the MEPC Working Group (see also A/55/61, para. 189) in developing draft new regulations for ballast water and sediments management to prevent the transfer of harmful aquatic organisms in ballast water. A diplomatic conference is planned for 2002 or 2003 to adopt the new measures.

The proposed new instrument is being developed on the basis of a two-tiered approach. Tier 1 requirements would apply to all ships and include mandatory requirements for a ballast water and sediments management plan, a ballast water record book and a requirement that new ships carry out ballast water and sediment management procedures to a given standard or range of standards. Existing ships would be required to carry out ballast water management procedures after a phase-in period, but these procedures may differ from those to be applied to new ships.

366. Tier 2 includes special requirements which may apply in certain areas, and would include procedures and criteria for the designation of such areas in which additional controls may be applied to the discharge and/or uptake of ballast water. It was noted at the forty-fifth session of MEPC that careful consideration should be given to the definition of zones for the discharge and/or uptake of ballast water in the light of the provisions of UNCLOS.[136] The Working Group has requested advice on "the implications/limitations under article 196 and other relevant articles of [UNCLOS] when establishing Ballast Water Management Areas beyond an exclusive economic zone."[137]

367. IMO reported that the Working Group had confirmed that ballast exchange on the high seas was the only widely used technique currently available to prevent the spread of unwanted aquatic organisms in ballast water and that its use should continue to be accepted. However, it was stressed that the technique had a number of limitations: it was of variable efficiency in removing organisms; the percentage removed depended upon the type of organism; the discharged water quality depended upon the original quality of the water taken up. It also had geographical limits. Furthermore, although existing ships might be subject to operational constraints, new ships might be designed to accommodate ballast exchange in a much wider range of circumstances. The Working Group concluded that development of alternative treatment technologies might produce techniques that were substantially more reliable and that ballast water exchange was an interim solution.

(iii) Liability and compensation for oil pollution damage

Increase in the limits of compensation for oil pollution damage

368. Under the 1992 Protocol to the International Convention on Civil Liability for Oil Pollution Damage (CLC Convention) the shipowner is strictly liable for damage suffered as a result of a pollution incident. If an accident at sea results in pollution damage of a value, which exceeds the compensation available under the CLC Convention, the IOPC Fund, created by the 1992 Protocol to the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (the Fund Convention), which is made up of contributions from oil importers, will be available to make up the balance. The regime established by the two treaties thus ensures that the burden of compensation is spread more evenly between shipowner and cargo interests.

369. IMO reported that its Legal Committee at its eighty-second session (October 2000) had adopted amendments to the CLC Convention and to the IOPC Fund.[138] The amendments raise by 50 per cent the limits of compensation payable to victims of pollution by oil from oil tankers. They are expected to enter into force on 1 November 2003, unless objections from one fourth of the Contracting States are received before then.

370. The increased limits were adopted in the wake of two major incidents, the *Nakhodka* in 1997 off Japan and the *Erika* disaster off the coast of France in December 1999. The amendments to the CLC Convention raise the limits payable to 89.77 million Special Drawing Rights (SDR) (approximately US$ 115 million) for a ship over 140,000 gross tonnage, up from 59.7 million SDR ($76.5 million) established in the 1992 Protocol. The amendments to the IOPC Fund raise the maximum amount of compensation payable from the IOPC Fund for a single incident, including the limit established under the CLC amendments, to 203 million SDR ($260 million), up from 135 million SDR ($173 million). However, if three States contributing to the Fund receive more than 600 million tons of oil per annum, the maximum amount is raised to 300.74 million SDR ($386 million), up from 200 million SDR ($256 million).

371. Further to the information provided by IMO, it should be noted that the 1971 Fund Convention will cease to apply as of 27 March 2001, the date on which the Protocol of 2000 will enter into force. The 2000 Protocol to the Fund Convention was adopted by an International Conference to amend article 43, paragraph 1, of the Convention and facilitate the orderly termination of the Convention, while ensuring that the IOPC Fund was able to meet in full its obligations to pay compensation to victims of oil pollution damage covered by the Convention.[139] This need had arisen because most of the major Contracting States contributors to the 1971 Fund had left the 1971 Fund to join the 1992 Fund regime (see also A/54/429, para. 439). The 1971 Fund was therefore losing its financial viability. The Conference also adopted a resolution entitled "Resolution on the Termination of the 1971 Fund Convention and Accession to the 1992 Protocols".[140]

Draft international convention on civil liability for bunker oil pollution damage

372. IMO reported that a Diplomatic Conference, to be convened in March 2001, was expected to adopt an international convention on civil liability for bunker oil pollution damage.[141] The prospective convention would complete the task initiated by MEPC more than 30 years ago, namely, the adoption of a comprehensive set of unified international rules governing the award of prompt and effective compensation to all victims of pollution from ships.

2. Regional cooperation

(a) Review of UNEP regional seas programme and action plans

373. The regional seas programme is currently undergoing a period of revitalization. Inaugurated in 1974, it is based on a periodic revision of action plans adopted by high-level intergovernmental meetings. There are currently 15 regions[142] covered by action plans, 11 of them supported by regional seas conventions (see annex V to the present report). Negotiations of the 12 regional seas conventions and action plans in the developing world were conducted under the auspices of UNEP. UNEP is also supporting the negotiations in the North-East Pacific and the Upper South-West Atlantic.

374. The main objectives of the regional seas programmes and action plans are the promotion of the integrated management and sustainable development of coastal areas and associated river basins and their living aquatic resources; promotion of the implementation of appropriate technical, institutional, administrative and legal measures for the improved protection of the coastal and marine environment; and facilitating the assessments of the coastal and marine environment, including their conditions and trends.

375. While not all of the 140 States[143] participating in at least one of the regional seas programmes and action plans are States parties to UNCLOS, the regional seas programme is an example of the realization of general obligations contained in Part XII of UNCLOS, which highlights the need to cooperate internationally and regionally on matters concerning the protection and preservation of the marine environment (articles 192 and 197).

376. UNEP initiated actions to revitalize the regional seas programme following the adoption of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities in 1995 (see paras. 320-333). In February 1999, the UNEP Governing Council, in its decision 20/19 A, stressed the need for UNEP to strengthen the regional seas programme as its central mechanism for the implementation of its activities relevant to chapter 17 of Agenda 21.

377. As a result of this revitalization movement the second Global Meeting of Regional Seas Conventions and Action Plans was convened at The Hague from 5 to 8 July 1999.

378. The third Global Meeting of Regional Seas Conventions and Action Plans was convened in Monaco from 6 to 11 November 2000. The four principle objectives of the Meeting were: (a) to promote and increase horizontal collaboration among regional seas conventions and action plans in addressing more effectively the protection and sustainable use of the marine environment; (b) to strengthen the linkages between the regional seas conventions and action plans and the global environment conventions and related agreements; (c) to strengthen the linkages between the regional seas conventions and action plans and the Global Programme of Action through agreed concrete actions;

and (d) to continue to advance the revitalization of the regional seas conventions.

379. At the third Meeting a round-table discussion was held on the theme "Critical Problems and Issues Facing Regional Seas Conventions and Action Plans". The most commonly raised issue by the representatives of the regional seas conventions and action plans was the financial constraints hindering the implementation of the conventions and action plans. Other frequently raised concerns included: inadequate exchange of information; the need for the increased participation of civil society and the private sector; compliance and enforcement; marine pollution prevention and response; and improved monitoring.

380. The Meeting recommended that representatives of the shipping industry, the chemical industry and the tourism industry should be invited to participate in the fourth Global Meeting of Regional Seas Conventions and Action Plans to address the issue of closer collaboration in regional seas programmes, including the financing of activities.

381. The Meeting requested the UNEP Division of Environmental Conventions to prepare a document, for consideration by the Governing Council at its twenty-first session (5 to 9 February 2001), on strengthening the work of UNEP in the continued vitalization of the regional seas programmes.

382. The Meeting also adopted recommendations on: (a) "Innovative Financing Option for Regional Seas Conventions and Action Plans"; (b) "Exploring New Options for Horizontal Cooperation among Regional Seas Conventions and Action Plans"; "Implementation of the Global Programme of Action"; (c) "Assessment and Monitoring of Oceans"; (d) "Strengthening Linkages between the Regional Seas Conventions and Action Plans and the Chemical-Related Conventions"; and (e) "Strengthening Linkages between Regional Seas Conventions and Action Plans and Biodiversity-related Conventions and Agreements".

383. Overall, these recommendations called for closer cooperation between the regional seas conventions and action plans and various institutions and secretariats having mandates and objectives related to aspects of the marine environment. The recommendations pointed towards a new era of enhanced collaboration that, inter alia, will enable the exchange of information and experiences and encourage capacity-building on issues of concern that affect the marine ecosystem. The establishment of "twinning" relationships between regional seas conventions and action plans themselves were welcomed and encouraged.[144]

384. There was also a call for a more coherent and coordinated approach among international environment instruments by Ministers of the Environment and heads of delegation who met at Malmö, Sweden, from 29 to 31 May 2000. This First Global Ministerial Environment Forum adopted the Malmö Declaration which, inter alia, stated that the evolving framework of international environment law and the development of national law provided a sound basis for addressing current major environmental threats. They added that this must be underpinned by a more coherent and coordinated approach among international environment instruments.

385. The revitalization of the regional seas programme also included the following notable recent developments. In April 2000, UNEP launched the Regional Seas web site (www.unep.ch/seas). In October 2000, a monograph on UNEP and the world's 17 regional seas conventions and action plans was published. A joint UNEP/FAO initiative exploring possibilities for cooperation between the regional seas programme and the regional fisheries management organizations was initiated. On 9 February 2001, the UNEP Governing Council adopted decision 21/28 (d), in which it welcomed the initiative and requested the Executive Director of UNEP, in conjunction with FAO, to support actions for enhancing cooperation between regional fisheries bodies and regional seas conventions and action plans (see paras. 272-278). A draft paper entitled "Financing Regional Seas Conventions: Paying for a Regional and Public Good" was also prepared which examined alternative and innovative financial mechanisms for mobilizing resources to support the secretariats of the Conventions and the activities of the action plans for the North-East Pacific and the Wider Caribbean regions.[145]

(b) Other regions

(i) Baltic Marine Environment Protection Commission (HELCOM)

386. The 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area (1992 Helsinki Convention) entered into force on 17 January 2000, thus superseding the 1974 Helsinki Convention. The parties are obliged to take all legislative,

administrative or other relevant measures to prevent and eliminate pollution in order to promote the ecological restoration of the Baltic Sea area and the preservation of its ecological balance.[146] The work of the Commission is carried out by five subsidiary bodies and a Programme Implementation Task Force and complemented by various working groups and projects.[147]

387. The Helsinki Commission launched a new project to safeguard maritime transportation. According to figures presented at the second meeting of the Commission's Sea-based Pollution Group (Brussels, January 2001), the probability of occurrence of incidents of marine pollution from ship accidents is increasing. A study of ship accidents within the entire Baltic Sea over the period 1989-1999 reveals that of a total of 232 accidents, one fifth of them resulted in oil pollution. High-risk areas for accidents are concentrated around port areas and in narrow straits. The project involved the compilation of a reliable maritime transportation inventory in the entire Baltic Sea area and the pinpointing of probable areas at risk. It is envisaged that it may be possible to tailor precautionary measures for each risk zone. Based on the results of the project, the Helsinki Commission hopes to prioritize response actions to be taken in real-time accidents to protect sensitive sea areas such as breeding and spawning grounds for the benefit of the Baltic Sea and its people.

(ii) OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic

388. At its annual meeting, held at Copenhagen from 26 to 30 June 2000, the OSPAR Commission adopted two measures on implementation of its strategy on radioactive substances: (a) adoption of national plans and submission of a detailed forecast for the achievement of the elimination or reduction of radioactive substances from both nuclear and non-nuclear sources; and (b) a binding decision, as adopted by 12 States,[148] on the reduction and elimination of radioactive discharges, emissions and losses, especially from nuclear reprocessing.

389. The OSPAR Commission also adopted and launched the Quality Status Report on the entire North-East Atlantic, or "QSR 2000", work on which had initially been mandated by the 1992 Ministerial Meeting. To implement this commitment the Commission had decided in 1994 to undertake the preparation of QSRs for five regions of the North Atlantic: Arctic Waters; the Greater North Sea; the Celtic Sea; the Bay of Biscay and the Iberian Coast, and the wider Atlantic. These regional QSRs, which have been published separately, form the basis of QSR 2000. The six chapters of QSR 2000 deal with, inter alia, geography, hydrography and climate, human activities, chemistry, biology, as well as overall assessment. The purpose of the conclusions and recommendations contained in QSR 2000 is to draw attention to problems and to identify priorities for consideration within appropriate forums as a basis for further work.

(iii) Arctic region: Programme for the Protection of the Arctic Marine Environment (PAME)

390. The Second Ministerial Meeting of PAME was held in Barrow, Alaska, United States, on 12 and 13 October 2000. The meeting set the Arctic Council's[149] agenda for the 2000-2002 period. During the United States chairmanship, the Council's accomplishments included, inter alia, continued strong progress in each of its four environmental working groups, including contributions to the development and implementation of the Russian National Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities and preparation of a map of resources at risk from oil spills in the Arctic.

391. At the Meeting, the Council adopted the Barrow Declaration, which endorsed the Council's Sustainable Development Framework Document, which will form a basis for continuing cooperation on sustainable development in the Arctic. It also noted with appreciation the work done by the PAME Working Group in the following areas: implementation of the Regional Programme of Action; offshore oil and gas; shipping; and review of international conventions and agreements. PAME's future activities, as outlined in a report to the Ministers, were endorsed by the Council, which recognized that the Regional Programme of Action should be used as a management framework for improved working group collaboration on the protection of the Arctic marine and coastal environment and that programme activities should also cover impacts on the coastal zone, which should be more fully addressed.

392. The Council also took note of the work being done by IMO with respect to the draft Guidelines for

Ships Operating in Ice-covered Waters and welcomed further cooperation on them.

D. Sustainable development of small island developing States

393. The oceans and seas have an immense impact on small island developing States[150] — on their economies, their environment and their climate. Oceans continue to be the primary food source for the subsistence of many of the peoples of these States. Given their heavy reliance on the oceans, it is understandable that they have placed and continue to place such great importance on ocean affairs. In recognition of their economic vulnerabilities and environmental fragility, specific provisions catering to the special geographic characteristics and vulnerabilities of small island developing States are embedded in international law and other major non-binding instruments.[151] The United Nations General Assembly at its fifty-fifth session (2000) adopted four resolutions specifically relating to small island developing States and ocean affairs (resolutions 55/202, 55/203, 55/7 and 55/8). As of 31 January 2001, of the 41 SIDS (see annex VI to the present report) 34 have ratified UNCLOS; 3 have signed UNCLOS but have yet to express their consent to be bound; and 21 are parties to the Agreement relating to the implementation of Part XI of UNCLOS. Of the current total of 27 ratifications/accessions to the 1995 Fish Stocks Agreement, 15 are by small island developing States. However, efforts of these States towards the full implementation of UNCLOS and related agreements are hampered by the constraints on their national capacities, including the lack of trained and qualified manpower in technical fields, coupled with their limited financial resources. The Declaration and state of progress and initiatives for the future implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, adopted by the General Assembly at its twenty-second special session in 1999 (see A/S-22/9/Rev.1, para. 22), together with the outcomes of the first meeting of the Consultative Process (see A/55/274), have highlighted the need for capacity-building among small island developing States to enable them to fully undertake their commitments contained in oceans-related international programmes of action and instruments. Capacity-building in the areas of training, research and technical skills that promote the sustainable management of the oceans and seas continues to be a priority for these States.

394. Cooperation between the international community and small island developing States remains a vital component in the efforts of the latter to achieve sustainable development, including ocean resources development. As emphasized in the Malmö Declaration,[152] there is an alarming discrepancy between commitments and action. Goals and targets for sustainable development agreed by the international community, such as the adoption of national sustainable development strategies and increased support to developing countries, must be implemented in a timely fashion. The Declaration also emphasized that the mobilization of domestic and international resources, including development assistance far beyond current levels, is vital to the success of this endeavour.[153] In the area of assistance in the sustainable management of fisheries resources, some assistance, including technical and financial resources, has been provided by regional fisheries bodies and other international organizations, including FAO, UNDP, UNEP, GEF,[154] and, in a few cases, regional banking institutions.[155] GEF and UNDP have been involved in projects in four focal areas[156] of GEF; the area of greatest relevance to ocean matters, and the sustainable development of small island developing States, especially as regards the integrated management of the coastal marine environment, is the International Waters Programme, which focuses, inter alia, on Africa, Asia and the Pacific, and Latin America and the Caribbean.[157] Furthermore, national and regional workshops aimed at capacity-building to assist recipient countries in fostering an ongoing two-way dialogue between GEF and the workshop participants were conducted by GEF-UNDP in the Organization of Eastern Caribbean States (OECS) subregion from 8 to 11 August 2000, in the Caribbean subregion from 5 to 8 December 2000 and in Cuba from 12 to 15 December 2000. Additional workshops are being scheduled for 2001, among them a series to be held for Comoros, Mauritius and Seychelles from 10 to 13 July 2001. Approximately 50 national and regional workshops are to be conducted over three years.

395. Fisheries activities within the exclusive economic zones of small island developing States continue to play a major role in the economic development of those States. However, IUU fishing remains a major threat to the sustainable harvesting of living marine resources

(see paras. 245-259). Lack of capacity and resources to enforce international and regional agreements, as noted in General Assembly resolution 55/7, continues to be a concern to those small island developing States whose exclusive economic zones are often larger than their land areas. Continued cooperation with the international community in the area of monitoring of fishing activities and surveillance within the exclusive economic zones of small island developing States is important if the sustainable management of ocean resources within their exclusive economic zones is to be a reality.

396. Among major recent initiatives with regard to the preservation and conservation of the ocean resources and marine environment of small island developing States are the conclusion of negotiations on the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean[158] (see para. 77) and the adoption of General Assembly resolution 55/203 of 20 December 2000, entitled "Promoting an integrated management approach to the Caribbean Sea area in the context of sustainable development". The objective of the Convention is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the Western and Central Pacific in accordance with UNCLOS and the 1995 Fish Stocks Agreement.[159] In resolution 55/203, the General Assembly called upon the international community to provide international assistance and cooperation in the protection of the Caribbean Sea. Other notable initiatives concerning small island developing States, the protection and preservation of their marine environment and the sustainable development of their marine resources have included: (a) in the Caribbean, the adoption of an Environmental Strategy at the sixth ordinary meeting of the Ministerial Council of the Association of Caribbean States (San Pedro Sula, Honduras, December 2000); and in the South Pacific, the endorsement of the South Pacific International Waters Programme at the eleventh biennial meeting of SPREP (Guam, October 2000). A Regional Pacific Oceans Policy is also being developed by the Pacific Islands Forum.[160]

397. The impact of climate change and its associated sea level rise continues to be a concern to small island developing States, particularly the low-lying island States and atolls. According to the Third Assessment Report of Working Group I of the Intergovernmental Panel on Climate Change (IPCC),[161] with regard to ocean temperatures, tide-gauge data show that the average sea level worldwide rose between 0.1 and 0.2 metres during the twentieth century. Global mean sea level is projected to rise by 0.09 to 0.88 metres between 1990 and 2100 (the full range of scenarios is presented by IPCC in Special Report on Emission Scenarios (SRES).[162] An IPCC report on the impacts of climate change on SIDS prepared for the sixth Conference of the Parties to the United Nations Framework Convention on Climate Change (The Hague, 13-24 November 2000), projected a warming of 1°C to 2°C for the Caribbean Sea and the Atlantic, Pacific, and Indian oceans in the future. And although much uncertainty in climate model projections of the distribution, frequency, and intensity of tropical cyclones and El Niño-Southern Oscillation events, the most significant climate-related projection for small islands is sea-level rise. While the level of vulnerability will vary from island to island, it is expected that practically all small island developing States will be adversely affected by sea-level rise (see paras. 416-420).[163]

398. The trans-shipment of radioactive materials through the territories and the exclusive economic zones of small island developing States continues to be a cause for concern to those States and their surrounding regions. In a communiqué released during the Thirty-First Pacific Islands Forum (Tarawa, October 2000), the Pacific Islands Forum drew attention to the continuing constructive dialogue between Forum members and France, Japan and the United Kingdom on developing a liability regime to compensate the region for damage or loss resulting from accidents involving trans-shipment of these materials.[164] Representatives of Caribbean States also discussed the issue of trans-shipment of radioactive materials at the fourth meeting of the Special Committees for the Protection and Conservation of the Environment and the Caribbean Sea and Natural Resources (Port of Spain, 21-23 June 2000).[165]

399. Nine small island States were registered as having participated in the first meeting of the Consultative Process (see paras. 608-614).[166] Clearly, it is important for small island developing States to participate in such a process if it is to retain its integrity. A voluntary trust fund is being set up pursuant to General Assembly resolution 55/7 to assist

developing States, including small island developing States, in participating in the Consultative Process.[167] Another trust fund was established in accordance with the same resolution to assist those States in the preparation of submissions pursuant to article 76 and annex II to UNCLOS (see paras. 65-69).[168]

400. Lack of capacity, coupled with limited resources, financial as well as technical, remain the major obstacles for small island developing States to implement the obligations they have undertaken under UNCLOS and other ocean-related agreements including international programmes of action. More concrete actions will need to be taken by the international community to assist those States in the regional and national implementation efforts of UNCLOS and other ocean-related agreements.

E. Protection of specific marine areas

401. States may wish to protect a particular marine area for a variety of reasons, for example, because of its ecological, biogeographic, scientific, economic or social importance, and/or because of the vulnerability of its resources to certain activities. A number of global as well as regional instruments provide various types of measures aimed at the protection of marine areas and their resources. The kind of measures a State may wish to adopt to regulate certain activities in an area depends on the specific characteristics of the marine area, its species and the ecosystem the State seeks to protect.

402. UNCLOS, for example, permits a coastal State to take measures in its exclusive economic zone to regulate fishing seasons and areas to be fished (article 62 (4) (c)), or, subject to the approval of IMO, to protect an area from shipping (article 211 (6)). Agenda 21 in its chapter 17 calls upon States to undertake measures to maintain the biological diversity and productivity of marine species and habitats under national jurisdiction through, inter alia, the establishment and management of protected areas (para. 17.7). Under the Convention on Biological Diversity parties are required to establish a system of protected areas where special measures need to be taken to conserve biological diversity and to develop guidelines for the selection, establishment and management of such areas (article 8 (a) and (b)). At its second meeting, the Conference of the Parties to the Convention designated marine and coastal protected areas as one of the five thematic issues/spheres for action under the Jakarta Mandate on the Conservation and Sustainable Use of Marine and Coastal Biological Diversity (see paras. 283-291).

403. Other global measures available to States include the establishment of an area as a Special Area under MARPOL 73/78, as a Particularly Sensitive Sea Area; as a sanctuary under the International Convention for the Regulation of Whaling; as a biosphere reserve under the UNESCO Man and the Biosphere Programme; as a cultural or national heritage for inclusion in the World Heritage List under the Convention concerning the Protection of the World Cultural and Natural Heritage; or as a Wetland of International Importance under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat. Regional measures include the establishment of an area as a specially protected area under the UNEP regional seas agreements, or other protective measures available under other regional agreements (see paras. 386-392). However, content, focus and the binding nature of possible measures vary greatly among the various regimes mentioned.

1. Marine protected areas

404. Marine protected areas have been identified as an essential tool for helping to conserve species and restore marine ecosystem health. They can be small or vast in size and can be established for a variety of objectives, ranging from strict protection to multiple uses. The Jakarta Mandate states that the provision of critical habitats for marine living resources should be an important criterion for selection.[169] States have so far mainly established marine protected areas in coastal vicinities. However, a number of States have adopted or are in the process of adopting national legislation providing for the establishment of such areas within their exclusive economic zones as well.

405. At the first meeting of the Consultative Process some delegations emphasized the need to give consideration to the use of marine protected areas as a tool for integrated ocean management. They also stressed that such areas could provide for a regime incorporating biodiversity conservation, fisheries, mineral exploration, tourism and scientific research in a sustainable manner. In this connection, mention was made of the need for identifying methods to establish and manage marine protected areas on the high seas. Some delegations expressed reservations about

establishing and managing such areas on the high seas. The topic of marine protected areas was identified as an issue to be considered for possible inclusion in the agendas of future meetings.[170]

406. Two workshops on marine protected areas on the high seas held during 2000 reflect the increasing interest of the international community in finding mechanisms for establishing high-seas protection zones. The expert workshop entitled "Marine Protected Areas on the High Seas: Scientific Requirements and Legal Aspects", organized by the German Federal Agency for Nature Conservation (27 February-4 March 2001), had as its aims: to identify conservation needs and priorities on the high seas; to review existing activities aimed at the conservation of valuable sites; and to develop ideas on achieving a sound protection regime for such sites on the high seas. The second workshop, entitled "Protection of the High Seas Marine Biodiversity in the South West Pacific: Role of Marine Protected Areas", to be hosted by Australia in April 2001, will build on the results of the German workshop and apply them to the specific circumstances of the South-West Pacific.

407. The possible establishment of marine protected areas beyond the limits of national jurisdiction was raised at the seventh session of the Commission on Sustainable Development in 1999 (see A/54/429, para. 508-509) and at the first Meeting of Experts on Marine and Coastal Biological Diversity, convened by the Biodiversity Convention secretariat in March 1997. The experts highlighted the unique significance of certain high seas and deep seabed areas (such as identified spawning areas, deep ocean trenches and certain hydrothermal vents) beyond the limits of national jurisdiction and called for consideration to be given to the development of means and modalities for the establishment of marine protected areas in such areas (see A/52/487, para. 241).

2. Special areas and particularly sensitive sea areas

408. IMO reported that its Marine Environment Protection Committee at its forty-fifth session had noted the amendments to the IMO Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas (PSSAs) contained in IMO Assembly resolutions A.720(17) and A.885(21), prepared by its Drafting Group. The Committee recognized the need for an Assembly resolution to revoke the existing Guidelines and requested the IMO secretariat to prepare a draft Assembly resolution together with a revised text of the Guidelines for discussion and approval at the forty-sixth session of MEPC, in April 2001.

409. MEPC also agreed that some guidance on selecting the most appropriate regime for a given area of the sea could be included in a separate document. The Committee requested the IMO secretariat to prepare a draft document for the forty-sixth session based on an outline prepared by the Drafting Group, as well as a flow chart to assist member States in deciding the most appropriate method of providing additional protection for sensitive sea areas.[171]

3. Developments at the regional level

410. All protocols relating to specially protected areas, adopted under the framework of the UNEP regional seas programme (see annex V to the present report), which cover the regions of East Africa, the wider Caribbean, the Mediterranean and the South-East Pacific, have entered into force. For the parties to those protocols the focus with regard to specially protected areas as a conservation and protection tool will now shift to the implementation and consolidation of the established rules, while in other regions legislative action might still be taken. Additional regions which have specific regimes in place providing protection and conservation measures for marine areas are Antarctica, the Baltic Sea area and the North-East Atlantic. In addition, other regional agreements provide protection to certain species and habitats more generally. These include the African Agreement on the Conservation of Nature and Natural Resources; the ASEAN Agreement on the Conservation of Nature and Natural Resources (not yet in force); and the Convention on the Conservation of Nature in the South Pacific. Furthermore, a large number of regional fisheries agreements provide for the establishment of conservation regimes applicable in specific marine areas to manage the resources in question.

411. The most recent UNEP instrument to enter into force is the 1990 Protocol concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, in May 2000. The Protocol provides for the establishment of protected areas in zones over which the parties exercise sovereignty, sovereign rights or jurisdiction and

envisages a variety of potential measures for those areas utilizing an ecosystem approach. The first meeting of the Scientific and Technical Advisory Committee and the first meeting of the parties to the Protocol will be held in Cuba, from 24 to 29 September 2001.

412. The regimes for the Mediterranean, the Baltic and the North-East Atlantic have been adjusted to take account of the recent shift in approaches to conservation and protection. They make use of such concepts as biodiversity protection and integrated management, as advocated by Agenda 21 and the Convention on Biological Diversity, and may serve as models for other regions in this respect.

413. The 1995 Barcelona Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean entered into force in December 1999 and replaced the earlier 1982 Protocol on Specially Protected Areas. The 1995 Protocol introduces the concept of Specially Protected Areas of Mediterranean Interest (SPAMIs) and is applicable to the whole Mediterranean Sea, including its seabed, subsoil and the coastal areas including wetlands. The Protocol provides that it must be applied in a manner consistent with the relevant provisions of UNCLOS and other rules of international law.

414. The 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area entered into force in January 2000. HELCOM recommendation 15/5 is used by the parties as a basis for the designation of Baltic Sea Protected Areas (BSPAs). A number of such areas have already been designated and an even greater number are currently under consideration.

415. The 1998 amendments to the Convention for the Protection of the Marine Environment of the North-East Atlantic, resulting in the adoption of a new Annex V concerning the protection and conservation of the ecosystem and biological diversity of the maritime area covered by the Convention, together with a related appendix, entered into force in 2000 for Denmark, Finland, Luxembourg, Spain, Sweden, Switzerland, the United Kingdom and the European Community. Annex V provides, inter alia, for the development of protective and conservation measures related to specific areas, making use of the precautionary approach and other recent concepts, i.e., best environmental practice, best available techniques and clean technology.

F. Climate change and sea level rise

416. According to the Third Assessment Report of Working Group I of the Intergovernmental Panel on Climate Change, the average sea level worldwide has risen and ocean heat content has increased.[172] Moreover, the northern hemisphere volume of spring and summer sea ice has decreased by about 10 to 15 per cent since the 1950s. It is likely that there has been about a 40 per cent decline in Arctic sea-ice thickness in late summer and early autumn in recent decades as well as a decline in winter sea-ice thickness, although at a considerably slower rate.

417. However, some aspects of climate appear not to have changed. The few areas of the globe that have not warmed in recent decades include some parts of the southern hemisphere oceans and parts of Antarctica. No significant changes in volume of Antarctic sea ice have been apparent since 1978, when reliable satellite measurements became available.

418. The report stated that there is new and stronger evidence that most of the warming observed over the past 50 years is attributable to human activities. It further stated that it is very likely that the twentieth century warming has contributed significantly to the observed sea-level rise, through thermal expansion of sea water and widespread loss of land ice.

419. From the report it is clear that unless actions are taken soon to implement the commitments[173] undertaken by States in accordance to the 1997 Kyoto Protocol to the United Nations Framework Convention for Climate Change, climate change and sea level rise will continue to adversely affect the earth and human livelihood. The advent of sea-level rise could also have implications that affect the rights and obligations of some States parties to UNCLOS, especially in relation to the breadth of the territorial sea, the contiguous zone and the exclusive economic zone, all of which are measured from the baselines of States.[174] Although the effect of the advent of sea-level rise will vary from country to country, small island States, especially those with atolls and those that are low-lying, will be most affected, just through the possible loss of territorial integrity, but, what is far more sacred to them, the loss of their cultures and way of life (see para. 397).

420. During the sixth Conference of the Parties to the United Nations Framework Convention on Climate Change (The Hague, November 2000), the IPCC

reminded delegates that if actions are not taken to reduce the projected increase in greenhouse gas emissions, the earth's climate is likely to change at a rate unprecedented in the last 10,000 years, with adverse consequences for societies and undermining the very foundation of sustainable development.[175] The Conference concluded without a finalization of the rules contained in the Kyoto Protocol.

G. Ten-year review of the implementation of Agenda 21

421. The General Assembly, in its resolution 55/199 on 20 December 2000, sets out the timing and modalities for four sessions to be held by the Commission on Sustainable Development at its tenth session in 2002. The tenth session of the Commission is to serve as an open-ended intergovernmental preparatory committee for the 10-year review of progress achieved in the implementation of the outcome of the United Nations Conference on Environment and Development (UNCED) in 2002 at the summit level, the "World Summit on Sustainable Development", to be held in Johannesburg, South Africa. One of the aims of the Summit, including its preparatory process, is to ensure a balance between economic development, social development and environmental protection. The active participation of all major groups, as identified in Agenda 21, is encouraged.

422. The Preparatory Committee is charged with undertaking, among other things, a comprehensive review and assessment of the implementation of Agenda 21, identifying major constraints hindering its implementation and formulating ways to strengthen the institutional framework for sustainable development and evaluating the role and the programme of work of the Commission.

423. The Commission has invited the United Nations Secretariat, working in close cooperation with UNEP, the regional commissions, the secretariats of UNCED-related conventions, as well as other relevant organizations, agencies and programmes within and outside the United Nations system, including international and regional financial institutions, to support activities in preparation for the 2002 World Summit on Sustainable Development.

424. In dealing with chapter 17 of Agenda 21, on "Oceans and Seas", modalities for inter-agency preparations were agreed by the Inter-Agency Committee for Sustainable Development at its sixteenth session (Geneva, September 2000),[176] which decided that task managers would submit a short report to the Commission on Sustainable Development by 1 February 2001.

425. The Subcommittee on Oceans and Coastal Areas of the Administrative Committee on Coordination, at its meeting in Paris in January 2001, held a brainstorming session to consider the draft compilation of inputs from various heterogeneous standpoints with a view to providing a focus on common themes and constraints in the implementation of chapter 17.

426. With regard to preparations at the national level, the Commission invited all Governments to undertake national review processes as early as possible. It was agreed that national reports on the implementation of Agenda 21, which Governments had prepared since 1992 and to which major groups had contributed, could provide a reasonable basis for guiding national preparatory processes. In this connection, the Department of Economic and Social Affairs of the United Nations Secretariat has been preparing country profiles, which cover most of the main thematic areas of Agenda 21 and the Programme for the Further Implementation of Agenda 21 (General Assembly resolution S/19-2, annex). The profiles are based on information contained in national reports submitted to the Commission by Governments between 1997 and 2001. Moreover, in consultation with other parts of the Secretariat, the Department has elaborated a proposed framework for addressing key issues in reviewing and assessing progress made in implementation of Agenda 21 at the national and regional levels. The proposed framework, in the form of a brief, user-friendly questionnaire, was communicated to all permanent missions in New York on 7 August 2000, with a suggested deadline for replies of 1 March 2001. The Department is also discussing with UNDP modalities for its effective involvement in the 2002 Summit process, in particular in support of national preparatory activities.

427. With regard to financial support for the preparatory process, the Commission at its eighth session recommended that steps be taken to establish a trust fund and urged international and bilateral donors to make voluntary contributions to the trust fund and to

support the participation of representatives from developing countries in the regional and international preparatory process as well as the 2002 Summit.[177]

VII. Settlement of disputes[178]

428. Under Part XV, section 1, of UNCLOS States parties are required to settle their disputes concerning the interpretation or application of the Convention by peaceful means, in accordance with Article 2, paragraph 3, of the Charter of the United Nations. However, when States parties to UNCLOS involved in a dispute have not reached a settlement by peaceful means of their own choice, they are obliged to resort to the compulsory dispute settlement procedures provided for under the Convention (Part XV, section 2).

429. During 2000, the International Court of Justice, the International Tribunal for the Law of the Sea and an arbitral tribunal established under Annex VII to UNCLOS were seized of disputes relating to the law of the sea. (Further details on the cases concerned may be found at the web site of the Division for Ocean Affairs and the Law of the Sea of the United Nations Secretariat: www.un.org/Depts/los.)

A. Cases before the International Court of Justice[179]

430. *Case concerning Oil Platforms (Islamic Republic of Iran* v. *United States of America)*. The case arose out of the attack on and destruction of three offshore oil production complexes, owned and operated for commercial purposes by the National Iranian Oil Company, by several warships of the United States Navy on 19 October 1987 and 18 April 1988. The acts, it was alleged, constituted a fundamental breach of international law and various provisions of the Treaty of Amity, Economic Relations and Consular Rights between the United States of America and Iran, signed at Tehran on 15 August 1955. At the request of the United States of America, the Court issued an Order dated 4 September 2000 extending from 23 November 2000 to 23 March 2001 the time limit for the filing of its Rejoinder. The Islamic Republic of Iran expressed no objection to the extension. However, Iran pointed out that the Court, in its Order of 10 March 1998, had reserved "the right of Iran to present its views in writing a second time on the United States counterclaim, in an additional pleading the filing of which may be the subject of a subsequent Order".

431. *Case concerning Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar* v. *Bahrain)*. The case deals with disputes relating to sovereignty over the Hawar Islands, sovereign rights over the shoals of Dibal and Qit'al Jaradah, and the delimitation of the maritime areas of the two States. On 29 June 2000, the public hearings in the longest case in the history of the Court were concluded. (Qatar had filed its Application with the Court against Bahrain on 8 July 1991.) On 16 March 2001, the Court, in rendering its Judgment on the merits of the case, decided inter alia, that Qatar has sovereignty over Zubarah, Janan island, including Hadd Janan, and the low-tide elevation of Fasht ad Dibal; and that Bahrain has sovereignty over the Hawar Islands and the island of Qit'at Jaradah. Moreover, the Court recalled that vessels of Qatar enjoy in the territorial sea of Bahrain, which separates the Hawar Islands from the other Bahraini islands, the right of innocent passage accorded by customary international law. As regards the question of the maritime boundary, the Court also recalled that customary international law was applicable to the case and that the parties had requested it to draw a single maritime boundary (in the southern part, the Court drew a boundary delimiting the parties' territorial seas over which they enjoy territorial sovereignty, including the seabed, superjacent waters and superjacent aerial space; in the northern part, the Court had to carry out a delimitation between areas in which the parties have only sovereign rights and functional jurisdiction, i.e., over the continental shelf and in the exclusive economic zone). With respect to the territorial sea, the Court drew provisionally an equidistance line (a line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial sea of each of the two States is measured) and then considered whether that line should be adjusted in the light of any special circumstances. The Court rejected Bahrain's argument that the existence of certain pearling banks situated to the north of Qatar, which had been predominantly exploited in the past by Bahraini fishermen, constituted a circumstance justifying a shifting of the equidistance line. It also rejected Qatar's argument that there is significant disparity between the coastal lengths of the parties calling for an appropriate correction. The Court further stated that considerations of equity required that the maritime formation of Fasht

al Jarim should have no effect in determining the boundary line.

432. *Case concerning Sovereignty over Pulau Ligitan and Pulau Sipadan (Indonesia/Malaysia).* The Court is requested to determine, on the basis of treaties, agreements and any other evidence furnished by the parties, whether sovereignty over Pulau Ligitan and Pulau Sipadan, two islands in the Celebes Seas, belong either to the Republic of Indonesia or to Malaysia. By an Order dated 11 May 2000, the President of the Court, at the request of the parties, further extended to 2 August 2000 the time limit for the filing of the Counter-Memorials, which were filed within the time limit as thus extended. In addition, by an Order dated 19 October 2000, the President of the Court fixed 2 March 2001 as the time limit for the filing of a Reply by each of the parties in the case. On 13 March 2001, the Philippines filed an Application for permission to intervene in the case, stating that it wished to "preserve and safeguard [its Government's] historical and legal rights arising from its claims to dominion and sovereignty over the territory of North Borneo, to the extent that those rights are affected, or may be affected, by a determination of the Court of the question of sovereignty over Pulau Ligitan and Pulau Sipadan".

433. *Case concerning Maritime Delimitation between Nicaragua and Honduras in the Caribbean Sea (Nicaragua* v. *Honduras).* The dispute deals with the delimitation of the maritime zones appertaining to each State in the Caribbean Sea. Taking into account the agreement of the parties, the Court decided, by an Order dated 21 March 2000, that Nicaragua would file a Memorial by 21 March 2001 and that Honduras would file a Counter-Memorial by 21 March 2002.

434. *Case concerning the Land and Maritime Boundary between Cameroon and Nigeria (Cameroon* v. *Nigeria).* The case deals with the question of sovereignty over the peninsula of Bakassi. The Court is also requested to determine the course of the maritime frontier between the two States beyond the line fixed by them in 1975 (Maroua Declaration of 1 June 1975). By an Order dated 21 October 1999, the Court authorized Equatorial Guinea to intervene in the case "to the extent, in manner and for the purposes set out in its Application for permission to intervene". In addition, the Court fixed 4 April 2001 as the time limit for the filing of a written statement by Equatorial Guinea and 4 July 2001 as the time limit for the filing of written observations by Cameroon and by Nigeria on that statement. Subsequently, by an Order of 20 February 2001, the Court authorized Cameroon to submit an additional pleading, which would relate solely to the counterclaims submitted previously by Nigeria, no later than 4 July 2001.

B. Cases before the International Tribunal for the Law of the Sea[180]

1. Case adjudicated

435. *The "Monte Confurco" Case (Seychelles* v. *France).* The dispute concerns the arrest of the fishing vessel *Monte Confurco*, flying the flag of Seychelles, which was apprehended by the French frigate *Floréal* in the exclusive economic zone of the Kerguelen Islands on 8 November for alleged illegal fishing and failure to announce its presence in the exclusive economic zone of the Kerguelen Islands. The *Monte Confurco* was escorted by French naval authorities to Réunion.

436. The district court of Saint-Denis, Réunion, ordered that the vessel could be released upon the posting of a bond of 56.4 million French francs.

437. At the hearing at the Tribunal, the Agent for Seychelles stated that the Master of the ship had entered the exclusive economic zone of the Kerguelen Islands, heading in the direction of Williams Bank. However, since his fax machine was not functioning, the Master was unable to notify the French authorities of the vessel's presence in the exclusive economic zone, in keeping with articles 2 and 4 of French Law No. 66-400 of 18 June 1966, as amended. The Agent disputed the allegation that the *Monte Confurco* had been engaged in illegal fishing. He maintained that the fish on board the vessel had been caught in international waters. The Agent for Seychelles also requested the immediate release of the Master, who was being detained in Réunion, and the return of his passport as well as the release of the vessel upon the posting of a reasonable bond, arguing that the bond set by the French authorities was not reasonable.

438. The Agent for France contended that the *Monte Confurco* had been discovered in the exclusive economic zone without having given notification of its presence and its catch, even though the vessel was equipped with radio-telephone and an Inmarsat station. Also, it was alleged, inter alia, that the vessel did not stop when ordered to do so.

439. The Agent for France also referred to the increase in illegal fishing in the area and the means used by vessels to avoid detention or punishment. He also emphasized the environmental danger to the stock of toothfish in the waters of the southern Indian Ocean. The expert called by France stated that overexploitation of the species could have serious consequences for the stock, especially as it had a long maturation phase. He also expressed the opinion that it was not possible for the *Monte Confurco* to have been fishing where it claimed to have fished, owing to the great depths in the areas concerned. However, on cross-examination by the Agent for Seychelles, the expert asserted that Spanish fishermen had developed techniques that allowed fishing in waters up to a depth of 2,500 metres.

440. On 18 December 2000, the Tribunal rendered its judgement in the case concerning the Application for prompt release of the *Monte Confurco*. The Tribunal ordered the prompt release by France of the vessel and its Master, upon the provision by Seychelles, the flag State of the vessel, of a security of FF 18 million. The Tribunal decided that the bond set by the national court in Réunion of FF 56.4 million for the release of the *Monte Confurco* and its Master was not reasonable.

441. The Tribunal unanimously found that it had jurisdiction under article 292 of UNCLOS to entertain the Application made on behalf of Seychelles; that the claims of Seychelles that France had failed to comply with article 73, paragraphs 3 and 4, of UNCLOS were inadmissible; and that the Application with respect to the allegation of non-compliance with article 73, paragraph 2, of the Convention was admissible.

2. Case settled by agreement

442. *Case concerning the Conservation and Sustainable Exploitation of Swordfish Stocks in the South-eastern Pacific Ocean (Chile/European Community).* In February 2001, Chile and the European Union (EU) reached an agreement which settled their dispute on both access for EU fishing vessels to Chilean ports and bilateral and multilateral scientific and technical cooperation on the conservation of swordfish stocks.

443. Prior to that, on 25 January 2001, both parties to the dispute had reached a negotiated settlement as a result of which EU had requested a suspension of panel proceedings within the World Trade Organization (WTO) and Chile had suspended proceedings before the Tribunal.

444. Initially, at the request of Chile and the European Community, the Tribunal, in accordance with article 15 of its Statute, had by an Order dated 20 December 2000 formed a special chamber of five judges[181] to deal with their dispute concerning the conservation and sustainable exploitation of swordfish stocks in the south-eastern Pacific Ocean.

445. The special chamber was requested to decide the following issues, to the extent that they were subject to compulsory procedures entailing binding decisions under Part XV of UNCLOS:

(a) On behalf of Chile:

(i) Whether the European Community had complied with its obligations under UNCLOS, in particular articles 116 to 119, to ensure conservation of swordfish in the fishing activities undertaken by vessels flying the flag of any of its member States in the high seas adjacent to Chile's exclusive economic zone;

(ii) Whether the European Community had complied with its obligations under UNCLOS to cooperate directly with Chile as a coastal State for the conservation of swordfish in the high seas adjacent to Chile's exclusive economic zone and also to report its catches and other information relevant to that fishery to the competent international organization and to the coastal State;

(iii) Whether the European Community had challenged the sovereign right and duty of Chile, as a coastal State, to prescribe measures within its national jurisdiction for the conservation of swordfish and to ensure their implementation in its ports, in a non-discriminatory manner, as well as the measures themselves, and whether such challenge would be compatible with UNCLOS;

(iv) Whether the obligations arising under articles 300 and 297, paragraph 1 (b), of UNCLOS, and the general thrust of the Convention, had been fulfilled in the present case by the European Community;

(b) On behalf of the European Community:

(i) Whether Chilean Decree No. 598, purporting to apply Chile's unilateral conservation measures relating to swordfish on the high seas, was in breach of articles 87, 89 and 116 to 119 of UNCLOS;

(ii) Whether the "Galapagos Agreement" of 14 August 2000 had been negotiated in keeping with UNCLOS, especially articles 64 and 116 to 119;

(iii) Whether Chile's actions concerning the conservation of swordfish were in conformity with article 300 of UNCLOS and whether Chile and the European Community remained under a duty to negotiate an agreement on cooperation under article 64 of UNCLOS;

(iv) Whether the jurisdiction of the special chamber extended to the issue referred to in point (a) (iii) above.

446. In parallel to the procedure before the Tribunal, on 10 November 2000, the European Commission had requested the establishment of a WTO panel against Chile in order to secure access for EU fishing vessels to Chilean ports, which had been closed to the European Community since 1991.

C. Case decided by an arbitral tribunal

447. *Award of 4 August 2000 rendered by the arbitral tribunal in the Southern Bluefin Tuna Case (Australia and New Zealand* v. *Japan).* A five-member international arbitral tribunal (Judge Stephen M. Schwebel, President; Judge Florentino Feliciano, Justice Sir Kenneth Keith, Judge Per Tresselt and Professor Chusei Yamada) rendered its award on 4 August 2000 on jurisdiction and admissibility in the *Southern Bluefin Tuna* case. At the request of the parties and the arbitral tribunal, the International Centre for Settlement of Investment Disputes, one of the five organizations comprising the World Bank Group in Washington, administered the proceedings.

448. Australia and New Zealand had commenced arbitral proceedings against Japan under Annex VII of UNCLOS and, on 30 July 1999, pending the constitution of the arbitral tribunal, both countries had requested the Tribunal to prescribe provisional measures under article 290 (5) of UNCLOS.

449. The dispute among the three States had arisen over whether southern bluefin tuna, a valuable migratory species of tuna that is fished mainly in the southern Atlantic Ocean near the Antarctic and is highly prized in Japan as a delicacy, was recovering from a state of severe overfishing. Australia, Japan and New Zealand in 1993 had concluded the Convention on the Conservation of Southern Bluefin Tuna, which established a Commission responsible for setting a total allowable catch among the parties as well as for taking other measures to promote the recovery of the stock. In addition, the 1993 Convention contains a provision for the settlement of disputes arising under it, permitting the parties to choose whatever means of peaceful settlement of disputes they prefer (article 16). However, the three States concerned are also parties to UNCLOS, which itself also contains provisions for compulsory settlement of disputes arising under it, including arbitration (articles 286 et seq.). Moreover, UNCLOS contains provisions on the fishing of migratory fish species, such as the southern bluefin tuna.

450. One of the main issues before the arbitral tribunal was whether it had jurisdiction over the merits of the dispute. Japan argued that the dispute had arisen solely under the 1993 Convention and that therefore it could not be compelled to arbitrate the merits of the dispute under UNCLOS. Furthermore, Japan contended that under article 282 of UNCLOS parties could avoid compulsory dispute settlement if another treaty to which they were bound governed the case and excluded it.

451. The arbitral tribunal held that a dispute could arise under more than one treaty, and indeed did so in the present case, in keeping with article 30 (3) of the 1969 Vienna Convention on the Law of Treaties, thus rejecting the claim by Japan that the dispute concerned only the 1993 Convention. Nonetheless, the arbitral tribunal sustained Japan's contention that a provision in the 1993 Convention excluded compulsory jurisdiction over disputes arising both under it and under UNCLOS and held that the parties were involved in a single dispute arising under both Conventions. In that connection, it held that the meaning and intent of the dispute settlement provision of the 1993 Convention was to exclude procedures for compulsory settlement under UNCLOS. As a result, it revoked, in accordance with article 290 (5) of UNCLOS, the provisional measures ordered by the International Tribunal for the Law of the Sea enjoining Japan from conducting an experimental fishing programme for southern bluefin tuna, while stating that the prospects for a successful settlement on the merits depended upon the parties'

abstaining from unilateral action that could aggravate the dispute.[182]

VIII. Marine science and technology

452. At its first meeting, the Consultative Process emphasized the important role of marine science and technology in promoting the sustainable management and use of the oceans and seas as part of efforts to eradicate poverty, to ensure food security and to sustain economic prosperity and the well-being of present and future generations. It also underlined the importance of marine science in the assessment of fish stocks, their conservation, management and sustainable use, including the consideration of ecosystem-based approaches, and, to that end, the improvement of status and trend reporting for fish. Finally, the Consultative Process pointed to the consequent need to ensure access for decision makers to advice and information on marine science and technology, the appropriate transfer of technology and support for the production and diffusion of factual information and knowledge for end-users.

453. The General Assembly, in its resolution 55/7 of 30 October 2000, stressed the need to consider, as a matter of priority, the issues of marine science and technology and to focus on the best ways to implement the many obligations of States and competent international organizations under Parts XIII and XIV of UNCLOS, and called upon States to adopt, as appropriate and in accordance with international law, the necessary national laws, regulations, policies and procedures to promote and facilitate marine scientific research and cooperation. The Assembly also recommended that, at its second meeting in May 2001, one of the areas of focus of the Consultative Process should be "marine science and development and transfer of marine technology as mutually agreed, including capacity-building in this regard".

A. Legal regime for marine science and technology

454. Since one of the basic concerns of the General Assembly, as reflected in resolution 55/7, is the implementation of the provisions of Parts XIII and XIV of UNCLOS, dealing with marine scientific research and the development and transfer of marine technology, respectively, it is worthwhile to point out the salient features of the legal regime for marine science and technology as set forth in UNCLOS.

1. Legal regime for marine scientific research[183]

455. UNCLOS, principally in its Part XIII, lays down a comprehensive global regime under which States are required to promote and conduct marine scientific research and cooperate in such research. It has struck a balance and an important compromise between the rights of the coastal State to regulate and authorize the conduct of marine scientific research in the zones under its sovereignty and the rights of the researching States to carry out research as long as it does not have any bearing on exploration and exploitation of natural resources.

456. However, concerns have been expressed that the legal regime as set forth in Part XIII (the consent regime in article 246, in particular) and as implemented by States might in fact have damaging effects on the international marine science community.[184] At the same time, most of the developing States face substantial challenges in implementing the marine scientific research regime. One important objective of the description of the regime below is to re-ascertain that the provisions on marine scientific research as drafted in Part XIII, far from being inhibitive, promote the development of marine scientific research and should be actively implemented.

457. Section 1 (General provisions) of Part XIII establishes the general principles under which all States and competent international organizations shall conduct marine scientific research subject to the rights and duties of other States (articles 238-241).

458. In section 2, States and competent international organizations are called upon to promote international cooperation in marine scientific research, as well as to cooperate so as to create favourable conditions for the conduct of such research, and to publish and disseminate information on proposed major programmes and their objectives and knowledge resulting from that research. Cooperation should also entail the strengthening of research capabilities of developing States through, inter alia, programmes to provide adequate education and training (articles 242-244).

459. *The consent regime for the conduct of marine scientific research.* The consent regime as established

in section 3 of Part XIII of UNCLOS represents a compromise between the coastal States' interests and those of the researching States. This compromise is reflected through the articles on tacit or implied consent and the right of the coastal State to withhold consent under specified conditions or to require the suspension or cessation of the research in progress in the exclusive economic zone and the continental shelf if the research does not comply with the information or the obligations required. In this regard, the provisions on settlement of disputes in section VI (articles 264-265) of Part XIII also stipulate that disputes concerning the rights of States to withhold consent for marine scientific research or to order its suspension and cessation are only, and to a limited extent, subject to the conciliation procedure under Annex V, section 2.

460. The basic consent provision is contained in article 246, paragraphs 1 and 2, whereby the coastal State in the exercise of its jurisdiction has the right to regulate, authorize and conduct marine scientific research in its exclusive economic zone and on its continental shelf in accordance with relevant provisions of the Convention. It is specified that marine scientific research in such maritime zones shall be conducted with the consent of the coastal State. However, the right of the coastal State is not absolute, in that UNCLOS, true to the balance struck between the coastal State's interests and those of the scientific community, differentiates between "normal circumstances" and situations where the discretionary powers may be exercised. It is emphasized in article 246, paragraph 3, that coastal States shall, in normal circumstances, grant their consent for marine scientific research projects. The granting of consent is thus established as the norm and not the exception. Furthermore, coastal States shall establish rules and procedures ensuring that such consent will not be subject to unreasonable delay or denial.

461. UNCLOS also identifies circumstances in which the coastal State can exercise its discretionary power to withhold consent. These are limited to four cases (article 246, paragraph 5): the research project (a) is of direct significance for the exploration and exploitation of the natural resources, whether living or non-living; (b) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment; (c) involves the construction, operation or use of artificial islands, installations or structures referred to in articles 60 and 80; or (d) contains information communicated pursuant to article 248 regarding the nature and objectives of the project which is inaccurate or if the researching State or competent international organization has outstanding obligations to the coastal State from a prior research project.

462. In order to facilitate research, article 252 contains an implied consent rule that allows States or competent international organizations to proceed with a research project six months after the pertinent information has been supplied to the coastal State (article 248 lists the information to be supplied), unless within four months of receipt of the information the coastal State has informed the researching State or organization that it has not met certain conditions.

463. The coastal State will have the right to require suspension or cessation (article 253) of the research in progress in the exclusive economic zone or on the continental shelf if the research does not comply with the information or obligations required.

464. Section 4 of Part XIII contains provisions on the legal status of the installations and equipment, which must have identification markings and adequate warning signals to ensure safety at sea and the safety of air navigation. Their deployment should not interfere with international shipping routes, and safety zones of a reasonable breadth may be created around them. Section 5 deals with responsibility and liability, while section 6 establishes provisions for the settlement of disputes.

465. *Implementation of the consent regime for marine scientific research.* With some exceptions,[185] little is known about State practice with regard to the implementation of the consent regime, and in particular, the provisions of article 246, paragraph 5. However, the Division for Ocean Affairs and the Law of the Sea has attempted to monitor developments in this field. Studies carried out by the Division include, inter alia: *National Legislation, Regulations and Supplementary Documents in Areas under National Jurisdiction,*[186] the report of the Secretary-General on marine scientific research (A/45/563), *Marine scientific research: a guide to the implementation of the relevant provisions of the United Nations Convention on the Law of the Sea,*[187] *Marine Scientific Research: Legislative History of Article 246 of the United Nations Convention on the Law of the Sea*[188] and *Practice of*

States at the Time of Entry into Force of the Convention.[189]

466. In the guide to the implementation of the above-mentioned provisions of UNCLOS on marine scientific research, a number of recommendations are made. They are worth bearing in mind because they correspond to some of the issues that the international community is still facing and the difficulties that still persist in the implementation of the legal regime for marine scientific research under the Convention.

467. With regard to the consent regime,[190] it has been revealed that in some instances coastal States have refused to give their consent to research projects. This may be attributable to: (a) difficulties coastal States may encounter in ascertaining the nature of the research proposal, arousing suspicion and resulting in rejection of the proposal, or (b) a lack of established internal administrative or legal structures for the coastal State to receive and process the research proposal, giving rise to delay or lack of response.

468. In this regard, one of the main recommendations in the Guide to marine scientific research issued by the Division is the proposal for the use of a standardized form[191] when making a request to the coastal State for marine scientific research in its maritime zone. Its aim is to reflect accurately the relevant provisions of UNCLOS and at the same time act as an assisting tool (or job aid) for the concerned authorities on both ends of the application. Coastal States are encouraged to agree on a standard form and to incorporate it into their rules and regulations and procedures.

469. International efforts are continuing, at the global and regional levels, to devise practical means for the efficient and effective functioning of the consent regime for marine scientific research. The Advisory Board of Experts on the Law of the Sea (ABE-LOS) of IOC intends to hold its first substantive meeting from 11 to 13 June 2001 (see para. 523). In preparation for the meeting, IOC circulated a questionnaire[192] seeking information on State practice with regard to the conduct of marine scientific research in accordance with UNCLOS. ABE-LOS will also base its agenda and selection of priority topics on a document prepared by the IOC secretariat entitled "A synthesis of IOC's possible role and responsibilities under the United Nations Convention on the Law of the Sea".[193]

470. At the regional level, issues related to the consent regime for marine scientific research are also being addressed. The South Pacific Geoscience Commission (SOPAC) indicated that most South Pacific island countries do not have a national system in place based on the UNCLOS regime. One of the few that do, where there is also a history of issues/problems between the coastal country and the researching countries, is Papua New Guinea. SOPAC was organizing a workshop to be held at Port Moresby from 28 February to 2 March 2001, with the aim of bringing all parties together to find solutions to the issues that have arisen in the case of Papua New Guinea and using it as a case study to develop practical solutions for other countries of the region. Constructive discussions were expected to be held on marine scientific research issues of concern to: coastal States, researching States, especially those active in the region (e.g., Japan, the Republic of Korea, Australia and France), and the region as a whole; together with a general synthesis of issues in marine scientific research. Special attention was to be devoted to the important marine resources in the region, such as minerals and living and non-living resources associated with hydrothermal vents (see para. 318), and the related issue of the distinction between marine scientific research, prospecting and exploration for resources.

471. In this context, SOPAC pointed out that the potential of the South Pacific region, which comprises 22 Pacific island countries and territories for achieving prosperity, has largely been demonstrated through the numerous marine scientific research campaigns of researching States and international organizations. Given the nature of this research, costly collaboration and cooperation between national, regional and international organizations is imperative if small island developing States in the Pacific region are to succeed in collecting the necessary information for an understanding of their marine resource base. Consequently, according to SOPAC, these countries need to be receptive towards marine scientific research related requests for access to their waters. However, at the same time they need to develop and strengthen their internal procedures for handling such requests, to ensure that measures are taken to avoid the abuse of such access.

472. Since the granting in 1997 of exploration licences by the Government of Papua New Guinea to a private company for exploration of polymetallic sulphides, concerns have been raised by interested stakeholders, i.e., the Government, the tenement holder and the

researchers who want to conduct marine scientific research within the tenement area. The issues that have been articulated include access to exploration sites, sampling rights, commercial alliances of the researchers, data-sharing, confidentiality of data and ship berthing rights. Some research institutes have indicated that, in the light of these emerging issues, they are reviewing their future commitment to continued marine scientific research activities within the SOPAC region. SOPAC is mindful of the fact that the activities of both researchers and industry are vital to the success of research, discovery, exploration and exploitation.

2. Legal regime for development and transfer of marine technology

473. The provisions of UNCLOS dealing with the development and transfer of marine technology are contained mainly in Part XIV. UNCLOS provides for the promotion of the development and transfer of marine technology (article 266 (1)). More importantly, the Convention also provides for the promotion of the development of the marine scientific and technological capacity of States which may need and request technical assistance in this field, particularly developing States, including landlocked and geographically disadvantaged States, with regard to the exploration, exploitation, conservation and management of marine resources, the protection and preservation of the marine environment, marine scientific research and other activities in the marine environment compatible with the Convention, with a view to accelerating the social and economic development of the developing States (article 266 (2)). Considerable misrepresentation of UNCLOS has resulted from the tendency to overlook the fact that it provides that, in promoting marine science and technology, legitimate interests should be protected, including, inter alia, the rights and duties of "holders, suppliers and recipients of marine technology" (article 266 (3)).

474. UNCLOS places emphasis on international cooperation and coordination in the development and transfer of marine technology. International cooperation for the development and transfer of marine technology shall be carried out, where feasible and appropriate, through existing bilateral, regional or multilateral programmes, as well as through expanded and new programmes, in order to facilitate marine scientific research, the transfer of marine technology, particularly in new fields, and appropriate international funding for ocean research and development (article 270). States, directly or through competent international organizations, shall promote the establishment of generally accepted guidelines, criteria and standards for the transfer of marine technology on a bilateral basis or within the framework of international organizations and other forums, taking into account, in particular, the interests and needs of developing States (article 271). In the field of transfer of marine technology, States shall endeavour to ensure that competent international organizations coordinate their activities, including any regional or global programmes, taking into account the interests and needs of developing States, particularly landlocked and geographically disadvantaged States (article 272). The competent international organizations referred to in Part XIV as well as in Part XIII shall take all appropriate measures to ensure, either directly or in close cooperation among themselves, the effective discharge of their functions and responsibilities under Part XIV (article 278).

475. UNCLOS identifies the establishment of national and regional marine scientific and technological centres as an important measure of the development and transfer of marine technology. States, directly or through competent international organizations and the International Seabed Authority, shall promote the establishment, particularly in developing coastal States, of national marine scientific and technological research centres and the strengthening of existing national centres, in order to stimulate and advance the conduct of marine scientific research by developing coastal States and to enhance their national capabilities to utilize and preserve their marine resources for their economic benefit. States, through competent international organizations and the Authority, shall give adequate support to facilitate the establishment and strengthening of such national centres so as to provide for advanced training facilities and necessary equipment, skills and know-how as well as technical experts to such States which may need and request such assistance (article 275). States, in coordination with the competent international organizations, the Authority and national marine scientific and technological research institutions, shall promote the establishment of regional marine scientific and technological research centres, particularly in developing States, in order to stimulate and advance

the conduct of marine scientific research by developing States and foster the transfer of marine technology. All States of a region shall cooperate with the regional centres therein to ensure the more effective achievement of their objectives (article 276).

476. Finally, the Third United Nations Conference on the Law of the Sea adopted a resolution promoting the development of national marine science, technology and ocean service infrastructures.[194]

B. Programmes on marine science and technology in the United Nations system

1. Marine science programmes in the United Nations system

(a) Intergovernmental Oceanographic Commission

477. The Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization is recognized as the competent international organization with regard to Part XIII of UNCLOS on marine scientific research. The activities of IOC are channelled through three interrelated programmes: ocean science, ocean observation operational observing systems, and ocean services, all of which are related to or based on marine science. IOC also has a direct capacity-building programme, the Training, Education and Mutual Assistance (TEMA) programme. In addition, IOC has a number of regional subsidiary bodies which carry out marine science-related activities.

(i) Ocean science

478. Currently, the ocean science programme of IOC has four major areas of focus: (a) oceans and climate; (b) ocean science in relation to living marine resources; (c) marine pollution; and (d) marine science for integrated coastal area management.

479. In relation to ocean science, one of the major areas of focus of the work of IOC is oceans and climate. The purpose of the work carried out under the World Climate Research Programme (WCRP), co-sponsored by IOC, WMO and the International Council for Science (ICSU), is to foster activities in research and observing systems development leading to improved understanding of the ocean's role in climate in order to enhance government decision-making processes for dealing with global change.

480. IOC reported that WCRP was pressing ahead with its two main ocean climate research programmes: the World Ocean Circulation Experiment (WOCE) and the Climate Variability and Predictability (CLIVAR) Study.

481. *World Ocean Circulation Experiment*. In 1998, WOCE completed nearly a decade of fieldwork and brought closure to the intensive observational phase initiated in 1990. The WOCE data set collected during this period serve as a much-needed benchmark with which to compare all past and future ocean observations in order to assess natural and anthropogenic change. The first set of CD-ROMs of WOCE data was made available in 1998, the second set in 2000.

482. The year 1998 also witnessed the finalization of the analysis, interpretation, modelling and synthesis phase of WOCE, which will enable the full benefits of all the investment to date by participating nations. The phase is expected to continue for at least five years. WOCE has also continued to expand its analysis phase during the period under review. The final regional workshop on the North Atlantic Ocean was held in August 1999 in Kiel, Germany. The report of the meeting highlights the tremendous progress made in the analysis of Atlantic data but also reveals how much more remains to be done in synthesizing these data and using them to improve models. To this end a Working Group on Ocean Model Development was established jointly with CLIVAR.

483. *Climate Variability and Predictability*. CLIVAR is the first scientific programme for the study of climate variability at the time scales of decades and centuries as well as to attribute causes to observed climate change. The enormous task of implementing CLIVAR moved forward by building on the statements of commitment and interest made at the International CLIVAR Conference held at UNESCO headquarters in Paris in December 1998. Important progress was made in defining priorities and developing plans for CLIVAR activities in Africa and South America. Planning started for implementation meetings to develop CLIVAR activities in the Atlantic, the Southern Ocean and the Pacific sectors. At a 1999 Conference co-sponsored by CLIVAR and the Global Ocean Observing System (GOOS) (see paras. 506-515) substantial progress was achieved in defining the

global observational networks that would serve both operational and research needs. At a practical level, extensions to the Pacific and Atlantic moored-buoy arrays were undertaken, with installations in the Indian Ocean to follow shortly. These arrays, which have proved so valuable in the Pacific, will soon be providing real-time data on the state of all the tropical oceans to scientists operating global numerical models.

484. *Array for Real-time Geostrophic Oceanography (ARGO)*. Firm commitments began to be received from nations intending to participate in the ARGO programme, which will deploy 3,000 free-drifting floats capable of regularly providing temperature and salinity profiles (see also paras. 513 and 524-526). These floats, together with the moored-buoy arrays, will provide the basic underpinning of the in situ upper-ocean observations required for pursuit of the year-to-year component of CLIVAR in each ocean basin. On the longer time scale CLIVAR scientists have been focusing on the forecast potential of subtle decadal climate signals in the oceanic mid-latitudes. These are commonly referred to as the North Atlantic Oscillation and the Pacific Decadal Oscillation.

485. The past decade was a turning point in gaining an understanding of the role of the oceans in climate and global change. Improvements in computer technology enabled the design and implementation of ocean-atmospheric physical integrated models with an unprecedented resolution power. Forecasting the rate of climate change and the regional expression of these changes require data and information previously unavailable. The collection of such data and information is now being organized and executed through a concerted effort to monitor continuously the major planetary processes. The Global Ocean Observing System (GOOS), the Global Terrestrial Observing System (GTOS) and the Global Climate Observing System (GCOS) have been integrated into a single Integrated Global Observing Strategy (IGOS), at the same time developing a strong partnership with the space agencies.

486. A second major area of focus of the work of IOC is ocean science in relation to living marine resources (OSLR). This work, after two decades of evolution, has evolved into several research and observational components. These include: the Harmful Algal Blooms (HAB) Programme and a related new international initiative, Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB); the Global Coral Reef Monitoring Network (GCRMN); and the Living Marine Resources Module of GOOS (LMR-GOOS).

487. *Harmful Algal Blooms Programme*. The overall goal of HAB programme is to foster the effective management of and scientific research on harmful algal blooms to understand their causes, predict their occurrence, and mitigate their effects. The HAB programme comprises a number of global and regional working groups and offers databases, technical manuals and guides as well as an international HAB newsletter. A main activity of the programme is networking and capacity-building for improved research and routine monitoring.

488. A coordinated international programme on the ecology and oceanography of blooms was needed to gain an understanding of their causes and to be able to predict when they would occur. To that end, in 1998, IOC and the Scientific Committee on Ocean Research (SCOR) of ICSU established GEOHAB. An IOC-SCOR Scientific Steering Committee for GEOHAB has been established and a GEOHAB Science Plan has been prepared and recently accepted by SCOR.

489. *Global Coral Reef Monitoring Network*. GCRMN is a joint programme of IOC, UNEP, IUCN and the World Bank, aimed at (a) improving the conservation, management and sustainable use of coral reefs and related coastal ecosystems by providing data and information on the trends in the biophysical status and the social, cultural and economic values of these ecosystems; and (b) providing individuals, organizations and Governments with the capacity to assess the resources of coral reefs and related ecosystems and to collaborate within a global network to document and disseminate data and information on their status and trends. The programme is funded through contributions from coral reef countries. It functions through regional "nodes", which serve to fund and coordinate the coral reef monitoring activities of coral reef countries in several regions throughout the world.

490. GCRMN produced the "Status of the Coral Reefs of the World: 2000" report, which appeared two years after the "Status of the Coral Reefs of the World: 1998" report documented massive coral bleaching, particularly in the Indian Ocean and South-East and East Asia, with major shifts in population structure on many reefs. The 2000 status report documents some encouraging news. Recruitment of new corals has

occurred in some reefs in the Indian Ocean and East Asia, suggesting that sufficient parent corals have survived to produce larvae. However, it may be years before it is known whether the reefs will fully recover, or if the structure of the reef community will be changed.

491. The degradation of coral reefs also affects the human communities that depend on them for their livelihood, through such activities as coral harvesting, fishing and tourism. The study of human communities and their social and economic conditions and motivations associated with coral reef use is becoming a major focus within the coral reef monitoring community. In 2000, GCRMN, in association with the United States National Oceanic and Atmospheric Administration (NOAA), IUCN and the Australian Institute of Marine Science, published the *Socio-economic Manual for Coral Reef Management*. The manual is intended to familiarize reef managers with socio-economic assessment methodology and provide practical guidelines on conducting baseline socio-economic assessments of coral reef stakeholders. It will be used for gathering socio-economic information in parallel with the biophysical information already collected by GCRMN. The IOC-coordinated South Asia node of GCRMN, with funding from the United Kingdom Department for International Development, is conducting training using the manual and is establishing demonstration projects in India, Sri Lanka and the Maldives, where socio-economic monitoring will be conducted. The South Asia GCRMN node is also developing a regional GCRMN database to enable the management and exchange of socio-economic and biophysical data between participating countries and institutions.

492. In response to the severe coral bleaching event of 1998, IOC has established a Study Group on Indicators of Coral Bleaching and Subsequent Effects. Its major objectives are: (a) to develop possible molecular, cellular, physiological and community indicators of coral bleaching that can reliably detect early stress signals; (b) to examine potential reef coral mechanisms for adaptation/acclimatization to global environmental change; and (c) to investigate the long-term responses of reef corals to large-scale changes in environmental variables. The activities of the Study Group will involve consideration of current physiological research and promotion of molecular and biochemical techniques that may lead to the recognition of indicators of stress on corals and early detection of coral bleaching.

493. *Living Marine Resources Module of Global Ocean Observing System (LMR-GOOS)*. The sustainability of the oceans' living marine resources is threatened by a wide variety of factors. These issues can only be addressed successfully through improved information-gathering regarding the status of the world's living marine resources and the factors driving change. With this in mind, the goal of LMR-GOOS is to "provide operationally useful information on changes in the state of living marine resources and ecosystems. The objectives are to obtain from various sources relevant oceanographic and climatic data, along with biological, fisheries and other information on the marine ecosystems, to compile and analyse these data, to describe the varying state of the ecosystems and to predict future states of the ecosystems, including exploited species, on useful time scales. A consequence of these efforts should be the identification and development of the more powerful and cost-effective means for monitoring marine ecosystems required to meet the LMR-GOOS goal."

494. To address these needs, the LMR-GOOS strategic design plan utilizes a broad, ecosystem-based approach that considers living marine resources in relation to their physical, chemical and biological environment. Recognizing the increasing heterogeneity of marine ecosystems from the open ocean towards the shore, the approach is structured into three systems: open ocean, coastal ocean and inshore.

495. Data and information management and the process of transforming data into useful products are an essential element of the LMR-GOOS approach. LMR data products, such as forecasts of ecosystem states, will be produced on an ecosystem scale, typically involving large ocean areas. Appropriate basin-scale regional analysis centres, which would serve to compile data and information on appropriate ecosystem scales and to generate appropriate forecasts and other data products, should be the fundamental unit on which LMR-GOOS is developed. Existing regional marine science organizations such as the International Council for the Exploration of the Sea (ICES) could host the centres, as could existing regional ecosystem observing programmes.

496. A key linkage between the observing programme and useful predictions of system dynamics is process

studies and modelling. Programmes such as the Global Ocean Ecosystem Dynamics Programme (GLOBEC) will provide critical information on physical-chemical-biological processes, develop advanced observing technologies and identify crucial variables and locations for long-time series analyses of climate variability and marine ecosystem response. In turn, LMR-GOOS will provide time series data for research programmes.

497. The first steps towards the implementation of a global LMR-GOOS must be the integration of existing observing systems into a more consistent, ecosystem-based approach utilizing regional design principles, together with a significant increase in capacity to enable full participation throughout the developing world. In many areas, ongoing observing programmes such as those identified as LMR components of the GOOS Initial Observing System are significant components of a regional system which need only minor augmentation and linkage through a regional analysis centre. In other areas, not even rudimentary monitoring capacities exist. The challenge to LMR-GOOS is to identify existing programmes and gaps and to find the resources to develop the programme on a global scale.

498. A third major area of the ocean science work of IOC relates to research on marine pollution, which is carried out under the Global Investigation of Pollution in the Marine Environment (GIPME) Programme.

499. *Global Investigation of Pollution in the Marine Environment*. GIPME is an international cooperative scientific investigation programme focused on marine contamination and pollution, co-sponsored by IOC, UNEP and IMO. In addition, the Marine Environment Laboratory of IAEA, through the Inter-agency Programme on Marine Pollution, is a partner in matters related to inter-comparison exercises and reference materials and methods. The overall objectives of GIPME have been: (a) to provide authoritative evaluations of the state of the marine environment at both global and regional levels, particularly in the identification of the nature and severity of the effects of marine contaminants; (b) to identify requirements for measures to prevent or correct marine pollution; and (c) to develop procedures for assessing/improving compliance monitoring and for surveillance of the marine environment, including risk assessments.

500. The GIPME programme, in collaboration with the Marine Environment Laboratory, has been engaged in the study of issues of contaminants in the marine environment. Through methodological development programmes, workshops and intercalibration exercises, techniques have been developed to assess contaminant concentrations in many matrices. Through the biological effects programme, measurement techniques have been developed to investigate the effects of contaminants on marine organisms. With the development of the GOOS project, scientists from within the GIPME programme have been involved in the development of the Health of the Ocean (HOTO) module of GOOS, specifically addressing the means of developing integrated mechanisms for observing and forecasting the effects of anthropogenic activities on the marine environment.

501. A fourth area of focus of the marine science — integrated coastal area management (ICAM) — is particularly useful for decision makers and managers. Established as a programme in 1998, the purpose of ICAM is to assist IOC member States in their efforts to build marine scientific and technological capabilities as a follow-up to Agenda 21. Fundamental to effective management of the coastal zone is the provision of scientific information to support the development of policies and coastal zone development options. ICAM provides a forum for identifying emerging issues and accessing and developing scientific information to underpin the work of the programme at regional and national levels. IOC has a range of scientific programmes of its own as well as access to other scientific programmes and skills which can be mobilized and focused to benefit coherent and relevant ICAM approaches. The ICAM programme focuses on interdisciplinary studies of coastal processes; scientific and technological information systems; methodological tools development; coastal monitoring; and training and education through symposia, workshops, seminars and training courses.

502. The Coastal Regions and Small Islands Unit is an intersectoral programme within UNESCO devoted to the coastal sustainable development of small islands and coastal regions, focusing on socio-economic issues and following an integrated management approach. Jointly with the Advisory Committee for Protection of the Sea, the Unit will undertake a root-cause analysis of the status of the coastal and marine environment in the sub-Saharan countries, in the context of the follow-

up to the Pan African Conference on Sustainable Integrated Coastal Management.

503. In October 1998, IOC, together with NOAA and the University of Delaware, United States, launched a web site on ICAM (http://www.nos.NOAA.gov/icm), which site provides practitioners with timely access to information on international guidelines on ICAM, descriptions of the ICAM programmes of other countries and ICAM approaches to specific problems (coastal erosion, coral reef management, beach replenishment, etc.). IOC and the other partners are contributing financially to the development and maintenance of the site.

504. IOC developed a strong training and education component for ICAM. Its general objective is to improve and promote training and education programmes at all levels relating to coastal and ocean management. The project covers a broad range of activities, including preparation of education materials, convening of specific workshops and courses and preparation of guidance documents for the facilitation of donor programmes. Some important components of the project are: training workshop on science policy in ICAM; national workshops on ICAM; specialized technical training courses; distance learning courses; and regional consortia of universities.

505. *Revitalization of the IOC Ocean Science Programme*. Following external reviews of OSLR, of GIPME and of the structure of the entire IOC science programme, and with the approval of the IOC governing bodies, the Ocean Science Programme has been undergoing a process of revitalization. As a result, IOC is expected to consolidate its current ocean science programme, divided into various sub-headings, into a single interdisciplinary programme, in recognition of the growing need to tackle complex environmental issues in an integrated and interdisciplinary way. The revitalized programme is expected to operate on two highly interacting main tracks: global and coastal ocean processes in the context of ocean ecosystems and climate variability; and integrated ocean and coastal area management.

(ii) Ocean observation

506. In the area of operational observing systems, the centrepiece of the work of IOC is the Global Ocean Observing System. Created in response to the need, also emphasized by Agenda 21, for an integrated and comprehensive global ocean observing and information system to provide the information required for oceanic and atmospheric forecasting, for ocean and coastal zone management by coastal nations and for research in global environmental change, GOOS is an operational system planned, established and coordinated by IOC, together with WMO, UNEP and ICSU. It is designed to provide real time descriptions of the current state of the sea and its contents, and forecasts of these for as far ahead as possible, for a wide range of users, and to meet the needs of the United Nations Framework Convention on Climate Change by underpinning forecasts of climate changes.

507. While the aims of GOOS are operational, it includes research to develop new operational approaches and tools. GOOS makes and integrates observations across all the disciplines and across all data-gathering media from ships and buoys to satellites and aircraft, covering the sea and its contents, sea ice and the air above the ocean. It is being designed to meet the needs of a broad user community for particular services or products. It will operate as an end-to-end, or production-line system, in which the data, and how they have been processed, are traceable from first observation to final product.

508. GOOS is already beginning to provide States Members of the United Nations with the ability to convert research results into useful products to meet societal needs. It is already influencing national thinking and planning. Many countries are now planning or executing their own coastal and ocean observations in line with the GOOS Strategic Plan and Principles. Many countries have created National GOOS Committees to develop contributions to GOOS at the national or regional level, by improving the way their methods of operational oceanography meet management needs and address policy issues.

509. Since the publication in 1998 of the GOOS Strategic Plan and an action plan for implementing the open ocean physical component of GOOS, the GOOS organization has been simplified into two implementation modules, one dealing with all aspects of coastal seas, and the other with the open ocean. Efforts have focused on two topics: (a) improving the design for open ocean observations in support of weather and climate forecasting, and (b) development of designs for the implementation of GOOS in coastal seas, which were made available by year-end 2000 on the GOOS web site (http://ioc.unesco.org/goos). The

coastal observing system will detect and predict changes in coastal ecosystems and environments.

510. In Bonn in 1999 and in The Hague in 2000, GOOS continued to receive additional intergovernmental support from the Conference of the Parties to the United Nations Framework Convention on Climate Change, as the ocean component of the Global Climate Observing System (GCOS). The Conference is requiring the Parties to develop action plans to implement climate-monitoring systems, including ocean components that will form part of GOOS.

511. In Monaco, in November 2000, discussions were held between UNEP and IOC regarding the use of GOOS as a distributed tool for meeting the needs of the various UNEP regional seas conventions (which collectively form in effect a distributed convention on seas and oceans) (see annex V to the present report). Already there are plans for the Baltic component of GOOS to form the primary mechanism for gathering the data needed for the Helsinki Commission (see paras. 386-387).

512. The GOOS Initial Observing System (GOOS-IOS), created in 1998 to unite existing global ocean-observing sub-systems, incorporates measurements from voluntary ships, buoys, coastal stations, including tide gauges, and satellites, as well as data centres and means of communication. The system has continued to grow with the addition of components such as the Continuous Plankton Recorder survey and the California Cooperative Fisheries Investigations. Further development of GOOS-IOS will be facilitated by the development of the new Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology, merging previous bodies dealing with oceanography and marine meteorology, which will hold its first intergovernmental meeting in Iceland in June 2001. A significant problem facing GOOS-IOS continues to be the vandalism by fishing vessels of the weather and climate forecasting ocean buoys.

513. The main GOOS pilot project continues to be the Global Ocean Data Assimilation Experiment (GODAE), designed to demonstrate the power of integrating satellite and in situ data, the importance of model assimilation and the value of a global system capable of working in real time. GODAE requires global coverage of the temperature and salinity of the ocean interior that can be integrated with satellite data from the ocean surface so as to greatly improve the numerical models that forecast ocean behaviour, weather and climate. To obtain these data IOC and WMO have launched the ARGO Pilot Project to collect upper-ocean measurements every two weeks and radio the information back to shore stations via satellite (see also para. 484). Several countries have already made substantial financial commitments to ARGO and some of the floats are already in the water. An IOC Technical Coordinator will inform member States about the locations of the floats and what data may be obtained from them.

514. The implementation of GOOS depends ultimately on nations working individually or in groups. The two main regional GOOS programmes are EuroGOOS in Europe, and NEAR-GOOS in the North-East Asian region. EuroGOOS continues to be successful in attracting funds from the European Commission for pre-operational research projects to develop the skills and capabilities to implement GOOS. MedGOOS and IOCARIBE-GOOS have both developed secretariats and are developing work programmes and proposals to fund their future activities in the Mediterranean and the Caribbean respectively. PacificGOOS held a meeting in August 2000 to begin developing its work programme for the Pacific islands. Black-Sea-GOOS and GOOS-Africa are planning meetings in 2001 to develop GOOS in those areas. A new IOC regional programme office in Perth, Western Australia, is helping to develop GOOS in the Indian Ocean. Regional GOOS programmes are being developed around North America by the United States and Canada.

515. GOOS is part of an Integrated Global Observing Strategy (IGOS) developed by the United Nations sponsors of global observing systems, along with ICSU and the Committee on Earth Observation Satellites. IGOS involves the major space-based and in situ systems for global observation of the Earth, including in particular the climate and atmosphere, oceans, land surface and Earth interior, in an integrated framework. It is expected to improve Governments' understanding of global observing plans, provide a framework for decisions on the continuity of observation of key variables, reduce duplication, help to improve resource allocation and assist the transition from research to operations. It is consistent with the drive towards increasing efficiency and effectiveness within the United Nations system. The IGOS Partners have agreed to focus initially on an oceans theme, which was

presented by the National Aeronautics and Space Agency (NASA) of the United States at the sixth IGOS Partners Meeting in November 2000.

(iii) Ocean services

516. In the area of ocean services, one of the core programmes of IOC during the past 40 years has been the International Oceanographic Data and Information Exchange (IODE) programme, which has as its aim to improve the knowledge and understanding of marine resources and the environment by providing a mechanism for the management and exchange of ocean data and information from which that knowledge can be generated. The IODE programme has assisted member States in establishing national oceanographic data centres, now numbering over 60, which are linked with the ICSU world data centres (oceanography) and world data centres (marine geology and geophysics). This network has enabled the ocean community to build and access huge archives of oceanographic data and information, preserving these valuable resources for posterity.

517. At the global level, the IODE Committee at its 16th Session (Lisbon, October/November 2000) adopted an ambitious work plan focusing on, inter alia: (a) the establishment of a global ocean metadata management programme (following the successful completion of the pilot project in 2000); (b) strengthening of the IODE regional coordinator mechanism; (c) the establishment, maintenance and strengthening of cooperation between IODE and ocean research and monitoring programmes; (d) increased activities related to biological and chemical data management and exchange; (e) continuation (after the successful implementation of the first phase, ending in 1998) of the Global Oceanographic Data Archaeology and Rescue Project to safeguard data at risk of being lost owing to media decay or neglect; (f) establishment of the IODE Resource Kit project, an Internet-based tool for IODE capacity-building and distance learning (following the completion of the pilot project in 2000); (g) active collaboration within the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology; and (viii) IODE participation in a marine Extensible Markup Language (XML) consortium to develop an XML as a standard for data interchange on the Internet.

518. One of the cornerstones of the IODE programme is its capacity-building programme. Every year, IODE and its members organize national and regional training courses or workshops with the objective of building or strengthening national capacity. In the case of developing countries, the IODE programme links training with equipment and operational support within the framework of regional Ocean Data and Information Networks (ODINs). An excellent example of such a network is the Ocean Data and Information Network for Africa (ODINAFRICA), a pan-African network of 20 member States. Based on its regional predecessors in East Africa and in the Western Indian Ocean region and in the Central Eastern Atlantic, ODINAFRICA will: (a) provide assistance in the development and operation of national oceanographic data (and information) centres and establish their networking in Africa; (b) provide training opportunities in marine data and information management applying standard formats and methodologies as defined by IODE; (c) assist in the development and maintenance of national, regional and pan-African marine metadata, information and data-holding databases; and (d) assist in the development and dissemination of marine and coastal data and information products responding to the needs of a wide variety of user groups using national and regional networks. In this regard emphasis is placed on data and information for coastal area management and data and information for development. An important component of the project is bringing together the ocean science/data management communities with managers/decision makers.

(iv) Training, education and mutual assistance

519. The IOC Training, Education and Mutual Assistance (TEMA) capacity-building programme is central to the overall IOC role and supports the capacity-building efforts that are focused within the IOC scientific programmes. A strong TEMA policy ensures that the capacity-building process is linked to existing and planned national and regional programmes, thereby enhancing the success rate of capacity-building activities. IOC is developing principles and a programme to develop national capabilities in marine sciences and services. This programme for the building of capacity involves a wide range of activities, depending on the starting capacity (level of ability) of the countries concerned.

520. Developing and strengthening capacities in marine research, observation and effective use of services that organizations such as IOC can offer

involves human resources, the necessary institutions and a framework that supports and sustains marine activities. These components must be integrated into a network, but implementation can be difficult because of the complexity of jurisdictions within and among nations and the large differences in ability and capacity among countries. Because of these differences, capacity-building activities must be tailor-made to the specific needs of a country or a region.

521. During 1999, IOC contributed to the implementation of 94 activities with strong capacity-building content. These activities were hosted in 29 member States and included 30 specific training events, 18 workshops and 1 beach-cleanup public awareness exercise. Thirty-six persons from 19 countries benefited from individual grants (24 travel grants and 12 research/study grants). More than 1,000 people from 102 member States participated in all activities. A large number of people (scientists and students) also benefited from access to scientific literature facilities and training tools. Marine science institutions of East Africa benefited from access to the Internet, acquisition of computer equipment and support for operational expenses. Funding for capacity-building amounted to more than $1.5 million, of which approximately 70 per cent was derived from extrabudgetary sources. TEMA activities for 2000 included 20 workshops and training courses.

522. The entry into force of UNCLOS has prompted IOC to begin an examination of ways to expand its role and functions vis-à-vis UNCLOS. IOC is called upon to assume responsibilities such as the promotion of marine scientific research, the establishment of practical measures for the conduct of marine scientific research facilitating the implementation of the provisions of the Convention, the publication and dissemination of marine science information and knowledge, the coordination of international marine scientific research projects and the provision of basic scientific information towards the protection of the marine environment and transfer of technology.[195]

523. In this regard, since 1994,[196] IOC has consistently placed on the agenda of its Executive Council and Assembly (19th and 20th sessions) the item entitled "IOC in relation to the United Nations Convention on the Law of the Sea". In response to its new responsibilities, e.g., the evolving expansion of its legal functions and other activities as a result of the entry into force of UNCLOS, IOC has established an Advisory Body of Experts on the Law of the Sea (ABE-LOS) (see para. 469),[197] an open-ended group composed of experts with expertise in the law of the sea and in marine science, to which each State member of IOC may nominate two experts.[198]

(b) World Meteorological Organization

524. WMO, observed that ocean data buoys, both freely drifting and moored, constitute valuable and sometimes unique sources of essential meteorological and oceanographic data from remote ocean areas. Such data, reported in real time via satellite, are distributed globally and made freely available on the Global Telecommunications System of the World Weather Watch of WMO. The data are inputted operationally into a variety of meteorological and oceanographic models, as well as being archived for delayed-mode applications. They directly support meteorological forecast and warning services (including for maritime safety), global climate and global change monitoring, research and prediction (including El Niño/La Niña), and meteorological and oceanographic research.

525. WMO, however, expressed the concern that these unattended, automatically operating ocean data collection platforms are sometimes the subject of vandalism, both deliberate and inadvertent, despite the value of their data to all maritime users. Often the vandalism results from ignorance of the purpose and value of the platform, and efforts have been made over many years to sensitize marine communities, in particular fishermen, to their purpose and value, but with little success. The problem was again highlighted at the annual session of the WMO/IOC Data Buoy Cooperation Panel in late 1999.

526. As an additional means of better sensitizing mariners of all types to the purpose and value of ocean data buoys, WMO and IOC have sought the assistance of the International Hydrographic Organization. Following the agreement of the IHO Commission for the Promulgation of Radio Navigational Warnings, an IHO circular letter containing an agreed text relating to buoy vandalism was distributed in August 2000 for promulgation in national Notices to Mariners. It is expected that this text will be promulgated in a similar way at regular intervals in the future.

527. WMO coordinates the operational delivery of meteorological and oceanographic data, analyses and forecasts for coastal areas, including maritime safety

services under the Global Maritime Distress and Safety System (GMDSS), as well as the provision of comprehensive operational storm surge warning services. WMO also coordinates a global system to provide comprehensive marine climatological databases for all ocean areas, including coastal areas and exclusive economic zones.

528. A new paradigm in international cooperation is represented by the Joint Technical Commission for Oceanography and Marine Meteorology, established by the governing bodies of WMO and IOC, as an operative body responding simultaneously to both organizations in which both organizations have agreed to pool resources and expertise to address common challenges.

529. WMO not only stresses the need for capacity-building in developing countries, but also points to the detrimental effects of the lack of capacity-building in marine meteorology. As WMO noted, it is clear that many developing countries lack the capacity either to participate in and contribute to the major marine observation and services programmes of WMO and IOC, or to benefit from the data and products which these programmes generate. This in turn means that the programmes themselves are deficient in data, product and service availability in many major ocean areas, which is to the detriment of all maritime users. This is particularly the case in large sections of the Indian Ocean. At the same time, isolated capacity-building efforts in individual countries in the marine area have not often been cost-effective and have had minimal overall impact. In an attempt to address capacity-building needs in a wider context, WMO, in collaboration with IOC, has developed a Western Indian Ocean Marine Applications Project (WIOMAP) for the enhancement of marine observing networks, data management and services in the Western Indian Ocean as a regional cooperative project involving both meteorological and oceanographic agencies and institutions.

(c) International Hydrographic Organization

530. The International Hydrographic Organization drew attention to a number of activities that should be carried out in the interest of the safety of navigation and the protection of the marine environment. Such activities include conducting, following IHO standards, hydrographic surveys (including bathymetry and measurements of oceanographic parameters) in ports, harbours and sensitive coastal areas as a first priority, and in the territorial sea, the exclusive economic zone and the continental shelf as a second priority; publishing and distributing the information derived through the hydrographic surveys in the form of nautical charts (electronic and paper) and nautical books for the safety of navigation of all ships; and making available the hydrographic and oceanographic survey information related to the sea areas under the coastal State's jurisdiction in the form of bathymetric maps and Geographic Information System (GIS) products, for the purposes of, for example, fishing, coastal zone management and scientific studies.

531. IHO pointed out that while in the developed countries there are well-established hydrographic services carrying out the above activities, many other countries also need to be assisted in this area. IHO has prepared a chart which broadly depicts the geographical regions where coordination and cooperation should be enhanced in the interest of the navigational safety and the protection of the marine environment; these include the West Pacific Islands, South Asia, the Persian Gulf, the Red Sea, southern Africa, Western and Central Africa, the southern Mediterranean, the Black Sea, the Baltic Sea, and Central America and the Caribbean. There are thus vast areas worldwide requiring robust intervention, most particularly in the African region.

532. It should be noted in this connection that the General Assembly, in paragraph 21 of its resolution 53/32 of 24 November 1998, invited States to cooperate in carrying out hydrographic surveys and nautical services for the purpose of ensuring safe navigation as well as to ensure the greatest uniformity in charts and nautical publications and to coordinate their activities so that hydrographic and nautical information is made available on a worldwide scale. Furthermore, in its resolution 54/31 of 24 November 1999, the Assembly specifically noted that developing countries, in particular small island developing States, might need assistance in the preparation and publication of charts under articles 16, 22, 47, 75 and 84 and annex II to UNCLOS, dealing with limits of national maritime zones, and in that context, urged the international community to assist such States (see paras. 83-87).

(d) Food and Agriculture Organization of the United Nations

533. FAO remarked that there are increasing demands for objective, neutral, verified and comprehensive information on fisheries, their resources and their environment. These demands stem from such concerns as the poor state of many fishery resources; the potential of unconventional fisheries resources; the collapse of some fisheries; the overcapacity and poor economic performance of many others; the threats of unabated environmental degradation; the risk of significant shifts in resources as a result of climate change; the requirement for a precautionary approach; and the threats and opportunities of globalization and free trade. Confronted with these problems, Governments, industry, NGOs, development banks, fisherfolk and the public at large are facing increasing difficulty in understanding the situation. There is often a lack of the necessary information for a better understanding of the implications of agreed international instruments as well as the options available and their implications. The unavoidable conflicts of interests create a danger of misuse or misinterpretation of the information available and there is a huge demand for greater transparency and higher-quality information (e.g., the best scientific information available). The demand for information from FAO grew rapidly during the past decade.

534. FAO has undertaken to improve, and make fully available on the Internet, all of its information systems and databases, developing a Fisheries Global Information System (FIGIS) with financial support from France and Japan. A first partial version dealing with statistics and species has already been made available. Preparation of modules dealing with vessels, gears, fishery commissions and strategic issues will soon be completed. Modules dealing with stocks, fisheries products and trade are to be produced in the near future. In addition, a Fisheries Resources Monitoring System (FIRMS) has been conceptualized and will be developed within FIGIS to foster the development of an international network of regional fishery management organizations and centres of excellence collaborating in the maintenance of a global information system on the state of world resources. In order to facilitate access to this information by countries, institutions and people with insufficient access to the Internet, FAO is developing a World Fisheries Atlas on CD-ROM in which similar information will be made available. In order to formalize and establish an institutional basis for the necessary national, regional and global efforts, the FAO Committee on Fisheries was to consider at its meeting in February 2001 a proposal for an international plan of action for status and trends reporting on fisheries.

535. FAO pointed out that to fulfil their commitments with regard to agreed international instruments and initiatives, countries need to improve significantly the quality of their information on ocean fisheries. For this purpose, higher priority should be given to improve statistical systems which, in many developing countries, are deteriorating for lack of due recognition and resources. The efforts of FAO to improve information on IUU fishing, fishing capacity, trade, the state of stocks, employment, prices, etc., as required by its members, need to be supported, and the capacities of countries to contribute to and use the Internet should be improved.

(e) International Maritime Satellite Organization

536. The International Maritime Satellite Organization (Inmarsat) was established in 1979 to make provision for the space segment necessary for improved maritime communications and, in particular, for improved safety of life at sea communications and the Global Maritime Distress and Safety System (GMDSS). Its purpose was later extended to provide the space segment for land mobile and aeronautical communications, and the name of the organization was changed to the International Mobile Satellite Organization (IMSO) to reflect the amended purposes. In its contribution to the present report, IMSO states that after 20 years of successful operation, member States and signatories to the intergovernmental organization Inmarsat decided to challenge the rapidly growing competition from private providers of satellite communications services and pioneered the first-ever privatization of assets and business carried on by the intergovernmental organization while adhering to the continuous provision of its public service obligations and governmental oversight. At its twelfth session, in April 1998, the Inmarsat Assembly adopted amendments to the Inmarsat Convention and Operating Agreement which were intended to transform the organization's business into a privatized corporate structure while retaining intergovernmental oversight of certain public service obligations, in particular, GMDSS (see

A/53/456, para. 215). In April 1999, Inmarsat was privatized, IMSO was created and a Public Service Agreement between IMSO and the privatized Inmarsat Ltd. was also executed.

537. IMSO also observed that the horizons of mobile satellite communications are expanding with ever-increasing speed and there are several different options for the design and capability of new services. The adoption by the IMO Assembly of resolution A.21/Res.888, "Criteria for the Provision of Mobile Satellite Communication Systems in the Global Maritime Distress and Safety System (GMDSS)", has provided a clear indication of the intention of IMSO to consider granting provision of GMDSS services in the future to any satellite operator whose system fits these criteria. This is most likely to happen in the context of a revision of Chapter IV (Radiocommunications) of SOLAS and will provide the opportunity for specifying more effective services in a way that permits the use of evolutionary capabilities and non-geostationary satellite constellations. At present, Inmarsat Ltd., with the satellite communications system which it operates, is the sole global provider of these services and its position in the marketplace is, for the time being, unrivalled.

538. IMSO added that in recent years, the process of the liberalization and privatization of global and regional satellite communications services has become a given fact. It is encouraging to note, in this context, that IMSO has not been able to detect any reduction or deterioration in the level and quality in the provision of GMDSS services by Inmarsat Ltd. under the new regime, compared with the situation prior to privatization. All other public service obligations were also fulfilled, or due attention has been given thereto by the Company. It may therefore be concluded that, after more than one year of distinct, but workable interface between IMSO and Inmarsat Ltd., the restructuring has paid off and the principles under which the process of restructuring took place have proved to be effective.

(f) Economic Commission for Latin America and the Caribbean

539. ECLAC reported that one of the areas of focus of its Division on Natural Resources and Infrastructure, which is responsible for ocean and the law of the sea affairs, is the role of marine scientific research in the sustainable development of oceans and coastal areas and in the most effective implementation of UNCLOS on the biological diversity of the marine environment. In 2000, a study was prepared by ECLAC on a preliminary approach to the constraints and opportunities for marine scientific research in Latin America and the Caribbean. In view of the current analysis it is undertaking in the field of marine scientific research and the incorporation of the subject as one of the areas of focus in the second meeting of the Consultative Process, ECLAC envisaged that it would carry out further work in the area and that the results thereof would be made available at the meeting.

2. Marine technology programmes in the United Nations system

540. UNIDO, together with its partner organizations, NOAA of the United States, the Centre for Coastal and Marine Sciences (Natural Environment Research Council) of the United Kingdom and the International Centre for Science and High Technology of UNIDO, in Italy, have at their disposal a broad range of the highest-quality expertise in integrated coastal zone management. Areas covered include fisheries management, environmental quality assessment (impact and risk assessment, eco-toxicology, monitoring tools, human health risks), risk factors related to political instability and international terrorism, image engineering for GIS, simulation modelling, climatology, expert systems and software engineering. Additional areas of expertise include the use of biotechnology to combat environmental degradation, experience and databases on the application of cleaner technologies, technologies for municipal and industrial waste management, investment promotion for industrial modernization and environmental planning requirements for the development of "environmentally friendly" technologies (see A/55/61, para. 247).

C. Identified needs in marine science and technology

541. The General Assembly, in its resolution 55/7, annex II, paragraph 1, stated that promoting and developing the marine scientific and technological capacity of developing States, in particular the least developed countries and small island States, with a view to accelerating their social and economic development, is essential for the effective implementation of UNCLOS. There already exists a

comprehensive inventory of needs built up over two decades; the Consultative Process can benefit from revisiting the inventory so that it can focus on the most critical needs and the requisite measures amenable to international coordination and cooperation.

542. One of the earliest studies on the implications of the provisions of UNCLOS on marine science and technology was reviewed by the Third United Nations Conference on the Law of the Sea itself. One of the primary objectives of the study (document A/CONF.62/L.76 of 18 August 1981)[199] was to aid in the consideration of such questions as mechanisms for establishing policy, processes of preparing legislation and other measures, allocation of functions among existing agencies or departments, and coordination among all sectors concerned for these purposes.

543. With respect to marine scientific research and the development of associated technology, one of the requirements identified was the establishment of an administrative framework for marine scientific research activities and the development of marine scientific capabilities. This involves in particular: (a) the development of adequate arrangements to coordinate programmes and projects, particularly those having a complementary nature — arrangements might involve all the various entities conducting or sponsoring research, whether directed towards environmental protection, the provision of meteorological services, and the utilization and conservation of living resources and other offshore resources, or towards other marine uses; such coordination would serve the purposes of reviewing research needs and establishing priorities as well as ensuring the compliance of marine scientific research activities with environmental, navigational and other rules; (b) an examination of the interests and capabilities (qualified personnel, level of funding, facilities and equipment, etc.) of institutions and sectors concerned, taking into account the establishment or development of a national marine scientific and technical centre; (c) the establishment of priorities and the formulation of programmes and specific projects, taking account, inter alia, of opportunities provided by international programmes designed to strengthen the marine scientific capabilities of developing countries; (d) an examination of needs associated with participation in the development and execution of global, regional and subregional programmes of research, education and training, and data and information exchange; and (v) cooperation as regards the creation of favourable conditions for the conduct of marine scientific research.

544. The requirements identified in the study also included arrangements to deal with research projects that another State or an international organization intends to undertake in the exclusive economic zone or on the continental shelf of a coastal State. This involves in particular: (a) assessment of suitably qualified personnel for participation in each project and appropriate arrangements; (b) maintenance of information on the research activities (vessels used, areas studied, institutions involved, deployment and use of installations and equipment, participants, reports) and dissemination of research results nationally and internationally; (c) establishment of specific arrangements ensuring expeditious consideration of the projects, which may require devising methods to review projects in terms of their significance for resource development, taking into account general criteria and guidelines developed pursuant to article 251 of UNCLOS; (d) arrangements for facilitating marine scientific research, access to harbours and assistance to research vessels (in coordination with port authorities); (e) special arrangements associated with the designation of areas on the continental shelf; (f) procedures in the event of the suspension or cessation of the research activities pursuant to article 253 of UNCLOS; (g) arrangements with respect to the participation of neighbouring landlocked and geographically disadvantaged States and provision of the relevant information and data; and (h) arrangements for dealing with disputes, including the requests of the coastal State for expert advice and assistance.

545. Additional requirements covered administrative aspects of the deployment and use of scientific research installations or equipment, including safety zones, identification markings and warning signals (in coordination with maritime and aviation authorities); and administrative arrangements (of the researching State) for the preparation and submission of information to the coastal State in compliance with its rules and procedures and with the conditions listed in articles 249 and 254 of UNCLOS.

546. With respect to the development and transfer of marine technology, the requirements included: (a) arrangements to take into account cooperative activities at all levels, including participation in forums dealing with economic and legal conditions for the transfer of

technology and with policies and methods, or establishing guidelines, criteria and standards, and in programmes established to assist in the development of technical capacity in marine science and in marine resource development; (b) administrative measures associated with the development of infrastructure; manpower development (including education and training and exchange of scientists, technological and other experts); acquisition, evaluation and dissemination of scientific and technical information and data, including information on the marketing of technology, contracts and other arrangements; the development of appropriate technology, etc.; and (c) arrangements for establishing or developing national and regional marine science and technology centres, taking into account international programmes of technical cooperation, and outlining functions to be performed.

547. Three reports of the Secretary-General issued in 1990 and 1991 (A/45/563, A/45/712 and A/46/722) deal with marine scientific and technological needs and possible measures to address them. The difficulties faced by many States, especially developing States are several and varied. They include the following: (a) there is a lack of awareness of the overall development potential of the marine sectors, national capacity for development has been strained and capabilities in the ocean sectors are limited; (b) there has been a scarcity of available financing and external assistance; in the few cases where it has been available, the level of international financing has been limited; (c) the acquisition of new technologies is beyond the reach of most; for instance, several developing countries are inadequately equipped to deal with the environmental implications of marine development and other ocean uses; they cannot respond to catastrophes or threats to the ocean ecology; (d) the development of skilled manpower in the several disciplines required for the sustainable development and management of ocean resources, including the environmental implications of marine development, is yet a distant goal to many; (e) there is a lack of awareness of the types of data and information needed to secure resource jurisdiction and of the sustainable development and management of ocean resources; (f) there is a lack of access to such data and information, as well as data and information resulting from marine scientific research; (g) there is a need for scientific information and technology development, whether applicable to traditional uses or to new avenues.

IX. Capacity-building

548. The issues of capacity-building and assistance to developing States were discussed during the first Meeting of the Consultative Process. The Meeting agreed to bring to the attention of the General Assembly the need for capacity-building to ensure that developing countries, and especially the least developed countries, and those that are landlocked, have the ability both to implement UNCLOS and to benefit from the sustainable use and development of seas and oceans and their resources, and the need to ensure the access of small island developing States to the full range of skills essential for these purposes.

549. In its resolution 55/7, the General Assembly underlined the essential need for capacity-building. In paragraph 23, it requested the Secretary-General, in cooperation with the competent international organizations and programmes as well as representatives of regional development banks and the donor community, to review the efforts taking place to build capacity as well as to identify the duplications that need to be avoided and the gaps that may need to be filled for ensuring consistent approaches, both nationally and regionally, with a view to implementing UNCLOS, and to include a section on this subject in his annual report on oceans and the law of the sea.

550. *Capacity-building: Suggested measures in chapter 17 of Agenda 21.* Agenda 21 itself, in its chapter 17, includes suggestions about capacity-building in matters relating to oceans and seas. It identifies programme areas and, for each programme area, provides suggestions for capacity-building of developing States.

551. With respect to the programme area of integrated management and sustainable development of coastal and marine areas, including exclusive economic zones, chapter 17 of Agenda 21 suggests that full cooperation should be extended, upon request, to coastal States in their capacity-building efforts and that, where appropriate, capacity-building should be included in bilateral and multilateral development cooperation. Coastal States may consider, inter alia: (a) ensuring capacity-building at the local level; (b) consulting on coastal and marine issues with local administrations, the business community, the academic sector, resource user groups and the general public; (c) coordinating sectoral programmes while building capacity; (d) supporting "centres of excellence" in integrated coastal

and marine resource management; and (e) supporting pilot demonstration programmes and projects in integrated coastal and marine management. The suggested measures for human resource development include education and training in integrated coastal and marine management and sustainable development; and development of educational curricula and public awareness campaigns.

552. With respect to capacity-building for the programme area of marine environment protection, chapter 17 of Agenda 21 suggests that national planning and coordinating bodies should be given the capacity and authority to review all land-based activities and sources of pollution for their impacts on the marine environment and to propose appropriate control measures. An international funding mechanism should be created for the application of appropriate sewage treatment technologies and for building sewage treatment facilities, including grants or concessional loans from international agencies and appropriate regional funds, replenished at least in part on a revolving basis by user fees. The suggested measures for human resources development include provision of training based on training needs surveys; development of curricula for marine studies programmes; establishment of training courses for oil-spill and chemical-spill response personnel; conduct of workshops on environmental aspects of port operations and development; support for specialized international centres of professional maritime education; and supporting and supplementing national efforts as regards human resources development.

553. For the programme area on the sustainable use and conservation of marine living resources of the high seas, chapter 17 of Agenda 21 suggests that States, with the support, where appropriate, of relevant international organizations, whether subregional, regional or global, should cooperate to develop or upgrade systems and institutional structures for monitoring, control and surveillance, as well as the research capacity for the assessment of marine living resource populations. The suggested measures for human resources development include training in high seas fishing techniques and resource assessment; strengthening cadres of personnel to deal with high seas resource management and conservation; and training observers and inspectors to be placed on fishing vessels.

554. Regarding the sustainable use and conservation of marine living resources under national jurisdiction, chapter 17 of Agenda 21 suggests that coastal States, with the support of relevant subregional, regional and global agencies, where appropriate, should: (a) provide support to local fishing communities, in particular those that rely on fishing for subsistence, as well as to indigenous people and women; (b) establish sustainable aquaculture development strategies; and (c) develop and strengthen, where the need may arise, institutions capable of implementing the objectives and activities related to the conservation and management of marine living resources. The measures for human resources development include expanding multidisciplinary education, training and research on marine living resources, particularly in the social and economic sciences; creating training opportunities to support artisanal (including subsistence) fisheries; and introducing topics relating to the importance of marine living resources in educational curricula.

555. For the programme area entitled "Addressing critical uncertainties for the management of marine environment and climate change", chapter 17 of Agenda 21 recommends that States should strengthen or establish, as necessary, national scientific and technological oceanographic commissions or equivalent bodies to develop, support and coordinate marine science activities and work closely with international organizations. The suggested measures for human resources development include the development and implementation of comprehensive programmes for a broad and coherent approach to meet core human resource needs in the marine sciences.

556. In respect of the sustainable development of small islands, chapter 17 of Agenda 21 explains that the total capacity of small island developing States will always be limited. Existing capacity must therefore be restructured to meet efficiently the immediate needs for sustainable development and integrated management. At the same time, adequate and appropriate assistance from the international community must be directed towards strengthening the full range of human resources needed on a continuous basis to implement sustainable development plans. New technologies that can increase the output and range of capability of the limited human resources should be employed to increase the capacity of very small populations to meet their needs. With regard to human resources development, since populations of small island

developing States cannot maintain all necessary specializations, training for integrated coastal management and development should aim to produce cadres of managers or scientists, engineers and coastal planners able to integrate the many factors that need to be considered in integrated coastal management.

A. Capacity-building activities within the organizations of the United Nations system

557. Almost all the organizations of the United Nations system carry out capacity-building activities with respect to oceans and the law of the sea within their respective areas of competence. The range and the diversity of such activities are reflected in a recent survey carried out by UNDP (see paras. 568-572). That report, structured along subject areas, deals with various measures in the respective subject areas, many of which could be considered as capacity-building measures, following the definition used by the Organisation for Economic Cooperation and Development (OECD). Capacity development is defined by the OECD Development Assistance Committee (a definition adopted also by the Canadian International Development Agency and others), as "the process by which individuals, groups, organizations, institutions and societies increase their abilities to: (a) perform core functions, solve problems and achieve objectives, and (b) understand and deal with their development needs in a broad context and in a sustainable manner".[200] The present section, however, describes the direct capacity-building activities of various organizations within the United Nations system, based on the information provided by the organizations themselves in response to a request by the Secretary-General.

558. *Food and Agriculture Organization of the United Nations.* FAO provided information on its activities in respect of capacity-building in developing countries, in particular training, with special emphasis on monitoring, control and surveillance and enforcement of fishing regulations. Within the programmes managed from FAO headquarters during 2000, training was provided to a number of persons for various periods, the total being in the order of 1,500 person/training days. Training has focused primarily upon two key areas for fisheries: training in support of improved post-harvest practices and training for the implementation of the Code of Conduct for Responsible Fisheries, particularly aspects associated with the monitoring, control and surveillance of fisheries. In addition, a number of training programmes are managed and delivered at the local level via the FAO regional offices. Besides direct training activities, the large number of manuals and publications produced by FAO may also be considered to contribute to capacity-building.

559. Another major area of activities of FAO in respect of capacity-building is the strengthening of regional fishery management organizations, as necessary, through cooperation with such bodies (see annex III). The second meeting of FAO and non-FAO regional fisheries management organizations was scheduled to be held at FAO headquarters in Rome on 20 and 21 February 2001.

560. *International Maritime Organization.* Within the United Nations system, capacity-building in maritime infrastructure is the focus of IMO. IMO attaches the highest priority to the need to ensure that the numerous rules and standards contained in its body of treaties are properly implemented. To ensure this, it focuses on the continuous strengthening of regulations to enable flag States, port States and shipowners as well as all other industrial partners in the chain of responsibility to develop their capacities and exert their responsibilities to the fullest. Technical cooperation activities of IMO have been intensified by the operation of the Integrated Technical Cooperation Programme, aimed at ensuring that funds from different donor sources are properly channelled towards the execution of projects under the supervision of IMO as executing agency for strengthening the maritime infrastructure of developing countries.

561. The importance of technical assistance to developing countries and the form that such assistance will take are reflected in IMO Assembly resolution A.901(21), entitled "IMO and technical cooperation in the 2000s" (see A/55/61, paras. 245-246). The resolution states that capacity-building for safer shipping and cleaner oceans is the main objective of the IMO technical cooperation programme during the current decade. The development and implementation of ITCP should continue to be based on a number of key principles, including the following: ownership of the development and implementation process vested in the recipient countries themselves; integration of the IMO regulatory priorities in the programme-building

process; development of human and institutional resources, on a sustainable basis, including the advancement of women; promotion of regional collaboration and technical cooperation among developing countries; promotion of partnerships with Governments, the shipping industry and international development aid agencies; mobilization of regional expertise and resources for technical assistance activities; coordination with other development aid programmes in the maritime sector; feedback from recipients on the effectiveness of the assistance being provided; and monitoring systems and impact assessments so that programme targets are met and lessons learned are transferred back to the programme-building process.

562. The resolution urges parties to IMO instruments containing provisions on technical cooperation to respond to their commitments and invites member States to use IMO as a coordination mechanism in relation to technical cooperation in the maritime sector. It also invites member States, the shipping industry and partner organizations to continue and, if possible, to increase their support for ITCP and affirms that ITCP can and does contribute to sustainable development.

563. The resolution highlights that the IMO mission statement, in relation to the organization's technical cooperation programme during the current decade, shall be to help developing countries improve their ability to comply with international rules and standards relating to maritime safety and the prevention and control of marine pollution, giving priority to technical assistance programmes that focus on human resources development, particularly through training and institutional capacity-building.

564. With respect to human resources development, the IMO capacity-building activities under ITCP are expected to produce an increased number of trained experts (both male and female) to develop and manage national programmes for maritime safety administration; marine environment protection; the development of maritime legislation; facilitation of maritime traffic; technical port operations; and training of seafarers and shore-based personnel. In the area of institutional capacity-building, activities under ITCP are expected to strengthen public sector departments capable of ensuring the effective exercise of flag State, port State and coastal State jurisdiction.

565. Priority global programmes within the ITCP framework include the development of administrative, legal and technical advisory services to Governments on the implementation of IMO safety and anti-pollution conventions, enhancement of training institutions and provision of fellowships, strengthening in the integration of women in the maritime sector, harmonization of the operation of various regional agreements on port State control, enhancement of maritime safety, prevention and control of illicit drug-trafficking and enhancement of port security. The main constituent programmes foreseen within the ITCP framework include regional programmes for Africa, Arab States/Mediterranean, Asia and the Pacific Islands, the Commonwealth of Independent States and Eastern Europe, and Latin America and the Caribbean.

566. The training of crews of ships is an essential capacity-building measure. The requirements regarding the training of crews which the flag State must implement under article 94 of UNCLOS are those contained in the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the STCW Code (see paras. 110-116).

567. In a broader sense, the various guidelines, assessment and verification procedures, and assessment and verification forms prepared by IMO are important tools that strengthen the capacity of officials of the national maritime administrations and related agencies to implement the complex provisions of the corresponding conventions. In the same vein, various workshops and seminars organized by IMO also help to strengthen the capacity of national officials through the exchange of information and experience and sharing of expertise. For example, during 2000 IMO continued its task of assisting member countries in the implementation of Memorandum of Understanding agreements on port State control. A Workshop for Regional Port State Control Agreement Secretaries and Directors of Information Centres was held at IMO headquarters in June 2000. Participants discussed the harmonization and coordination of port State control procedures and the exchange of information between regional agreements.

568. *United Nations Development Programme*. UNDP is one of the leading organizations in the area of capacity-building, not only in terms of developing and implementing measures of capacity-building, especially education, training and field projects, but

also in refining, promoting and giving practical effect to the concept of capacity-building.

569. In an attempt to facilitate the response by the Secretary-General to the request of the General Assembly, UNDP prepared a study for the tenth session of the Subcommittee on Oceans and Coastal Areas (SOCA) of the Administrative Committee on Coordination.[201] The study presented a listing of capacity-building activities of the organizations of the United Nations system focusing on education, training and field projects relating to oceans and seas. The range of activities is quite wide and the scope quite diverse. Fellowships in the field of ocean affairs are awarded by UNESCO, IMO and the United Nations. Training programmes are carried out by IOC, IMO, FAO, IAEA and the United Nations. Field projects are executed by FAO, IAEA, IMO and UNDP.

570. With respect to oceans and seas, the capacity-building activities of UNDP itself are carried out under the Strategic Initiative for Ocean and Coastal Management (SIOCAM), a global UNDP programme with the goal of enhancing the capabilities of existing and future ocean and coastal management projects through the systematic identification, documentation and sharing of best practices and lessons learned.

571. UNDP reported that during the past few years, SIOCAM has accomplished a number of objectives. With respect to assessing needs and resources of projects, two assessments were carried out: (a) an assessment of five UNDP coastal projects (1996, New York); and (b) an assessment of all UNDP, UNEP and World Bank GEF International Waters (IW) projects (2000, Budapest). With respect to establishing training and information networks, SIOCAM focused on two programmes: IW:LEARN (information exchange) and TRAIN-SEA-COAST (course development and sharing) (see paras. 579-585). With respect to identifying, documenting and disseminating best practices and resources, SIOCAM focuses on a number of studies and manuals that include case descriptions of best practices; a coastal management appraisal manual; and an integrated convention management matrix linking actions to six conventions/agreements.

572. One major emphasis of SIOCAM is enhancing UNDP support for donor coordination activities. In this context, cooperation has been strengthened with, inter alia, the Strategy for International Fisheries Research (SIFAR), the International Coral Reef Initiative (ICRI) and the World Commission on the Oceans. SIOCAM is also building up a number of support capabilities. These include the SIOCAM web site (siocam.sdnp.undp.org); the UNDP Coastal Group, combining IW and Marine and Freshwater Biodiversity; a Programme Advisory Note for project preparation; the UNDP-World Bank IW Partnership; and Strategic Global Projects on Ballast and Mercury from Gold Mining.

573. *United Nations University*. The United Nations University (UNU) Fisheries Training Programme is carried out as a formal cooperative venture of four institutions in Iceland. Since its inception in 1997, the programme has provided 29 fellowships to professionals in various areas of fisheries from 14 developing countries. The programme's primary focus is on developing countries that are dependent on fisheries or have major development potential in fisheries. The selection of UNU fellows also takes into account the regional context. The training covers diverse disciplines within fisheries and consists of two distinct parts: a common seven-week introductory course, followed by specialist training of four to five weeks. The fellows working under the programme are required to return to their home institutes after the training so that the capacity-building process continues even after the UNU training.

B. Capacity-building activities of the United Nations Division for Ocean Affairs and the Law of the Sea

1. Amerasinghe Memorial Fellowship Programme

574. The capacity-building measures of the United Nations system in relation to ocean law, policy and management are exemplified by the fellowship and training programmes of the Division for Ocean Affairs and the Law of the Sea.

575. Every year, the Division provides one or two fellowships under its Hamilton Shirley Amerasinghe Memorial Fellowship programme to qualified persons specializing in the law of the sea and ocean affairs who wish to broaden their knowledge and acquire additional skills, which in turn would benefit their countries. Although the fellowship is limited in quantity, the qualitative impact of the strengthened capabilities of the individual fellows can be enormous in view of the fact that in many cases, the fellows are the sole

decision makers in their respective countries in the field of responsibility.

576. The Hamilton Shirley Amerasinghe Memorial Fellowship programme was established in 1982 in memory of the late President of the Third United Nations Conference on the Law of the Sea. It is part of the Programme of Assistance in the Teaching, Study, Dissemination and Wider Appreciation of International Law, which encompasses all training and fellowship programmes of the United Nations system in the field of international law. Under the fellowship programme, the fellows pursue a postgraduate level research/study programme at a participating university of their choice for a period of not less than six months. Thereafter they work as interns in the Division for Ocean Affairs and the Law of the Sea for a period of approximately three months.[202]

577. To date, the Legal Counsel of the United Nations, on the recommendation of a High-level Advisory Panel, has made 15 Annual Fellowship Awards and 3 Special Awards to fellows from 17 developing countries. Currently there are 15 universities and institutes in seven developed countries and one developing country participating in the fellowship programme.

578. In December 2000, Margaret N. Mwangi of Kenya, was awarded the fifteenth annual fellowship. Mrs. Mwangi is a Senior State Counsel in the Attorney-General's Office in Kenya and intends to utilize the fellowship award to pursue a programme of study in the control of marine pollution. (For participating universities and members of the High-level Advisory Panel, see press releases SEA/1654, SEA/1695 and SEA/1698/Rev 1. The information can also be obtained from the web site of the Division for Ocean Affairs and the Law of the Sea: www.un.org/Depts/los/HSA.htm.)

2. TRAIN-SEA-COAST Programme

579. The training activities under the Division's TRAIN-SEA-COAST (TSC) Programme encompass integrated coastal and ocean management. The Programme was developed as part of a system-wide training strategy that emphasizes: (a) building up permanent national capabilities for training; (b) sustainability of training efforts; (c) cost-effectiveness; (d) responsiveness to specific training priorities of the countries involved; (e) transfer of experience and sharing of training resources; and (f) long-term impact.

580. The basic objective of the TSC Programme is to create capacity at the local level to produce high-quality training courses to be shared among the TSC members, and at the same time to strengthen local institutions to become centres of excellence on training at the national or regional levels. In 2000, three major initiatives were undertaken in this regard. The Division for Ocean Affairs and the Law of the Sea conducted the Fourth Course Developers Workshop and Planning Meeting. Through intensive training, 16 individuals selected from existing as well as forthcoming TSC course development units (CDUs) learned how to apply the TSC pedagogic methodology in the course development process and made a tentative plan for their training activities to be initiated upon their return to their respective countries. This was the first workshop/meeting in the series with participants from CDUs from the first phase of the TSC Programme, CDUs associated with the GEF International Waters Projects together with new members of the network, such as TSC/Germany and the forthcoming TSC/Indonesia.

581. As part of a second national-level initiative, the Rockefeller Brothers Fund is providing support to the TSC Programme in the planning for a course development unit in Indonesia and the training of one course developer. This new CDU, together with TSC/Philippines and TSC/Thailand, will constitute a stronghold of training capacity in the South-East Asia region. And thirdly, in the South Pacific, the TSC Programme is about to commence activities for the sixth TSC course development unit associated with a GEF project. The unit is located at the University of the South Pacific.

582. The TSC Programme has grown and diversified. Over the first five years of its existence, it concentrated its efforts in building capacity at the national level. At the end of the last decade, with the support of UNDP/GEF, six additional CDUs were created at the national level, but were geared to attend to training needs at the regional level as well. Currently, the TSC Programme is expanding the breadth of training opportunities as well as its cooperating partners. This aspect of the TSC strategy encompasses the establishment of training initiatives in cooperation with various United Nations agencies. IMO and GPA, for example, both requested the TSC Programme to assist

in the development of training courses tailored to their particular needs.

583. At the request of IMO, the TSC Central Support Unit at the Division for Ocean Affairs and the Law of the Sea prepared a project proposal for the development and delivery of a training course on "Control and Management of Ship's Ballast Water", which will be validated at two demonstration sites of the IMO Global Ballast Water Management (GloBallast) programme: Sepetiva, Brazil, and Saldahna, South Africa. The objective is to build capacity, through training at both local and regional levels, to implement the IMO voluntary Guidelines for the Control and Management of Ship's Ballast Water to minimize the transfer of harmful aquatic organisms and pathogens during ballasting, and thus to prepare for the IMO mandatory regulatory regime. The course will be developed by two TSC CDUs, namely, TSC/Brazil (at the University of Rio Grande) and TSC/Benguela Current (at the University of the Western Cape in South Africa) and delivered by teams of instructors from other TRAIN-X[203] sister programmes. The course will be adapted and delivered at four other demonstration sites of the GloBallast programme, with the support of TSC/Brazil and TSC/Benguela Current. Once the project is approved and the course is ready for delivery, it is expected that up to 270 individuals will be trained at the site, in first deliveries alone.

584. Another key goal of the TSC Programme is the sharing of training courses and personnel among the members of the TSC network, thus utilizing the full capacity of the network as a sharing system and making training a more cost-effective endeavour. In 2000, TSC/Rio de la Plata requested the TSC Central Support Unit to organize the sharing and adaptation of the course entitled "Integrated Coastal Management: Exchange and Interrelationships between Coastal and Oceanic systems" developed by TSC/Brazil. After several consultations between both course development units, the course was successfully adapted to the local conditions of the Rio de la Plata region and delivered jointly by TSC/Brazil and TSC/Rio de la Plata.

585. The Database on Education and Training in Integrated Coastal and Ocean Management, a cooperative project between the United Nations University, Institute of Advanced Studies (UNU/IAS), the Division for Ocean Affairs and the Law of the Sea, and the Bureau of Development Planning of UNDP, is a valuable tool for capacity-building in ocean policy and management. The Division and UNU organized an Expert Group Meeting on Training and Education at Sassari, Italy, in 1993. As a follow-up UNU, in cooperation with the Division and UNDP, initiated the Database, one of the most important and very few post-UNCED initiatives in capacity-building for integrated coastal and ocean management. The Database is an extremely useful tool for both developed and developing countries in that it provides immediate online access to information on academic programmes, extension courses, short training courses and on-the-job training opportunities. As a global inter-agency project, the Database draws upon the comparative advantage of the partnership among UNU, the host of the Database with its research and training mandate; the Division for Ocean Affairs and the Law of the Sea, with its long-standing experience in training and networking in integrated coastal and ocean management; and UNDP, a recognized institution in capacity development with a network of field offices. The Database is now fully operational and can be accessed at http://db.ias.unu.edu/published/icon/. An advisory body to be established will be responsible for data quality control and other important actions for the functioning of the Database. Keeping pace with the new information and communication technology, all activities related to the Database will be undertaken online, including the participation of the three partners in the annual conference.

X. International cooperation and coordination

A. Subcommittee on Oceans and Coastal Areas of the Administrative Committee on Coordination (SOCA)

586. In 1993, the Administrative Committee on Coordination (ACC), acting on a proposal of the Inter-Agency Committee on Sustainable Development, established the Subcommittee on Oceans and Coastal Areas with the purpose of meeting the coordination needs defined in chapter 17 of Agenda 21.

587. SOCA held its ninth session at IMO headquarters in London from 26-28 July 2000 and its tenth session at the Intergovernmental Oceanographic Commission in Paris from 9 to 11 January 2001. At the tenth session, discussions focused on a number of subjects of

ongoing concern and activity: the United Nations Atlas of the Oceans; status of implementation of the GPA; the 10-year review and appraisal of the implementation of Agenda 21: reporting and participation; coordination and cooperation in combating piracy and armed robbery at sea; matters related to the fifty-fifth session of the United Nations General Assembly and preparations for the second meeting of the Consultative Process, 7-11 May 2001, New York; making the Subcommittee more transparent, effective and responsive: follow-up to Commission on Sustainable Development decision 7/1 and General Assembly resolutions 54/33 and 55/7; and review of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) (see paras. 597-603).

588. The Subcommittee took a number of decisions to advance work on the United Nations Atlas of the Oceans relating, inter alia, to the allocation of funds to accelerate the inputting of information, arrangements with the publisher regarding a mutual understanding of responsibilities and the long-term management of the project, the long-term economic sustainability of the Atlas and the production of a CD-ROM and videos.

589. Regarding the status of implementation of the GPA and the 10-year review and appraisal of the implementation of Agenda 21, the Subcommittee focused on issues related to advancing the preparation of a coordinated input into the two review exercises (see para. 325).

590. The Subcommittee also considered a new item on its agenda, "Coordination and cooperation in combating piracy and armed robbery at sea", and agreed that it was not in a position to suggest any specific actions for consideration by the Consultative Process at its second meeting since IMO was the appropriate body to deal with the issue and that a section on "Crimes at sea" should be established for the United Nations Atlas of the Oceans with the Division for Ocean Affairs and the Law of the Sea taking the lead in the development of such a section (see paras. 169-226).

591. Regarding the preparations for the second meeting of the Consultative Process (see paras. 618-619), the Subcommittee decided that the United Nations Atlas of the Oceans would be the main topic of the SOCA presentation by its Chairman at the meeting and that the Chairman, in his capacity as Executive Secretary of IOC, would prepare an annotated draft paper on the topic of marine science for comments and inputs by other interested agencies before its submission to the Consultative Process meeting and that the Division for Ocean Affairs and the Law of the Sea and IMO would prepare a background paper on piracy and armed robbery at sea.

592. Under its item on GESAMP, the Subcommittee was briefed by the representative of IMO, who serves as the Administrative Secretary of GESAMP, on recent developments concerning the evaluation of GESAMP (see paras. 697-702). While recognizing the need for improving the functioning and effectiveness of GESAMP, the Subcommittee reiterated the value of independent scientific advice on ocean issues and expressed concern that transforming GESAMP into an intergovernmental panel could threaten the independence of its work and lead to a complicated and expensive process.

593. In the light of information on the ongoing restructuring of the ACC system, the Subcommittee was informed that ACC at its October 2000 session had agreed to establish two new high-level committees with the immediate task of reviewing the functioning of all ACC subsidiary bodies. The review was to be "zero-based", i.e., to consider what needed to be done rather than what was currently being done. IACSD and its Subcommittees on Water Resources and SOCA would be reviewed by the new High-Level Committee on Programmes at the end of February 2001, at a meeting to be held in Vienna and chaired by the Director-General of UNIDO, and based on its recommendations, ACC is expected to take a final decision on the continued existence of its subsidiary machinery when it meets in Nairobi on 2 and 3 April 2001.

594. Based on the October 2000 decision of ACC, the Assistant Secretary-General for Policy Coordination and Inter-Agency Affairs of the United Nations Department of Economic and Social Affairs (who is also the Secretary of ACC) on 3 January 2001 addressed a letter to the Secretaries of all ACC subsidiary bodies advising, inter alia, that, pending the final review, care should be taken by those bodies to avoid any long-term decisions on work programmes and selection of officers that might prejudge the relevant ACC conclusions.

595. In that connection, SOCA unanimously agreed to recommend to the Interagency Committee on

Sustainable Development the extension of the terms of the current Chairperson and Vice-Chairperson until such time as the status of the Subcommittee was clarified.

596. SOCA nevertheless reiterated its decision that the United Nations Atlas of the Oceans would be the main topic of its presentation at the second meeting of the Consultative Process, as it had the potential to best demonstrate cooperation and coordination by the United Nations system in working together on the oceans.

B. Other mechanisms

1. Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)

597. Constituted in 1968 under an inter-agency Memorandum of Understanding, GESAMP is an expert scientific advisory body supported by organizations of the United Nations system. As of May 2001, the sponsoring agencies were: the United Nations, through its Division for Ocean Affairs and the Law of the Sea; UNEP; UNESCO/IOC; FAO; WHO; WMO; IMO; and IAEA. Each GESAMP sponsoring agency provides a technical secretary and supports the participation of experts at GESAMP meetings (plenary and working groups). IMO also provides the Administrative Secretariat for GESAMP in addition to a technical secretary. The principal task of GESAMP is to provide independent, multidisciplinary scientific advice to the sponsoring agencies concerning the prevention, reduction and control of the degradation of the marine environment with a view to sustaining its life support systems, resources and amenities. The annual reports of GESAMP and the reports of its working groups thus represent substantial contributions to the technical work of the sponsoring agencies under their respective mandates and programmes of work, including in relation to the implementation of UNCLOS and chapter 17, among others, of Agenda 21 and, through the agencies, to their governing bodies and member States, to assist them in policy and decision-making for the marine environment, particularly coastal areas.

598. At the thirtieth session of GESAMP, hosted by IAEA at its Marine Environment Laboratory in Monaco,[204] from 22 to 26 May 2000, the Intersecretariat of GESAMP (comprising the GESAMP Administrative Secretary and the technical secretaries of the sponsoring agencies) reviewed a March 2000 proposal by the Executive Director of UNEP to the Administrative Secretary for an in-depth independent evaluation of GESAMP to make the advisory mechanism more effective and responsive. A subsequent, further elaborated proposal developed in consultation with IMO led to an agreement by the Intersecretariat to carry out the evaluation. The Intersecretariat also agreed on the terms of reference for the exercise and on the mechanism for its implementation, namely, the establishment of an evaluation team. The team, with a maximum of five members, would consist of two independent scientific experts who have so far not been involved in the GESAMP mechanism: one from a developed and another from a developing country; two Government-nominated experts: one representing a developed and another representing a developing country; and one scientific expert who has been a GESAMP member, to provide first-hand information and hands-on experience.

599. It was further agreed that the costs to carry out the evaluation, which were estimated at $60,000-$80,000, should be distributed among all the GESAMP sponsoring agencies, using to the extent possible an equally applied cost-sharing formula,[205] and that the Administrative Secretariat should make all the necessary arrangements.

600. At the May 2000 session, the GESAMP Chairman and the Vice-Chairman expressed their support for the exercise and the executive heads of the sponsoring agencies subsequently endorsed it, the first such review since GESAMP became operational in 1969.

601. The Evaluation Team held its first, largely organizational meeting at IMO headquarters in London on 29 and 30 January 2001, and is to meet again from 29 April to 1 May 2001 to analyse responses to questionnaires developed at the first meeting and the results of extensive interviews scheduled during the inter-sessional period. The IMO Administrative Secretariat will also prepare a status report on the evaluation for submission to the Consultative Process at its second meeting. At a final meeting planned for end June/early July 2001, the Evaluation Team will complete its report.

602. In addition to commenting on the proposed evaluation exercise, at its plenary meeting GESAMP

reviewed and approved two draft reports prepared by its Working Group on Marine Environmental Assessments: "A Sea of Troubles" and "Protecting the Oceans from Land-based Activities". Both reports have been published under the GESAMP Reports and Studies Series as issues Nos. 70 and 71 respectively. The plenary meeting also addressed the progress of ongoing activities being carried out under the auspices of working groups and a number of issues of current and growing concern regarding the degradation of the marine environment, with a view to bringing them to the attention of the marine environment community and, in some cases, to undertaking assessment activities inter-sessionally in order that a more in-depth evaluation of the issues might be considered in the future.

603. The thirty-first plenary session of GESAMP will be held at United Nations Headquarters in New York from 13 to 17 August 2001.

2. Inter-Secretariat Committee on Scientific Programmes relating to Oceanography (ICSPRO)

604. During the first meeting of the Consultative Process, the Chairman of IOC brought to its attention the role of the Inter-Secretariat Committee on Scientific Programmes relating to Oceanography, an existing inter-agency coordinating mechanism whose enabling instrument is deposited with UNESCO. The members of ICSPRO are the executive heads of the relevant United Nations divisions, FAO, UNESCO, WMO, IMO and any other United Nations agencies wishing to cooperate. This level of participation provides for an executive management group which is invested with real decision-making power with regard to the implementation of oceans-related programmes capable of providing timely reaction and guidance for the United Nations system on emerging ocean issues. IOC provides the secretariat of ICSPRO.

605. At the time of its creation in 1969, ICSPRO was extremely effective in promoting and implementing the major ocean research programmes, resulting, for example, in an increased understanding of ocean/atmosphere interactions and the role of the ocean in climate change. However, there have been many changes since then. Today global needs have expanded to include the priorities of ocean and coastal management and other applications of marine science. In 1999, the mandate of IOC was modified to take into account these priorities. To be effective as a coordinating mechanism, ICSPRO would also need to be brought up to date in this regard, reflecting current needs and new trends on ocean issues.

606. It was pointed out that the implementation of actions agreed by the ACC/SOCA requires following the due process of endorsement of and financing within the governing structure of each agency. This process alone cannot solve the need for guidance on new, emerging cross-sectoral ocean issues. A revitalized ICSPRO can be an effective body with sufficient executive authority to address this task.

XI. Review by the General Assembly of developments in ocean affairs: United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

607. The General Assembly of the United Nations had been undertaking an annual review of all important developments in oceans and the law of the sea based on a comprehensive annual report prepared by the Secretary-General. However, it was felt that there was a need to broaden and deepen the debate in the General Assembly and to further enhance the coordination and cooperation in ocean affairs at the intergovernmental and inter-agency levels. In 1999, at its seventh session devoted to the review of progress in the area of sustainable development of oceans and seas, the Commission on Sustainable Development re-emphasized this need. Following the recommendation of the Commission, the General Assembly by its resolution 54/33 of 24 November 1999 decided to establish an annual open-ended informal consultative process in order to facilitate, in an effective and constructive manner, its own review of developments in ocean affairs.

608. The Consultative Process, consistent with the legal framework provided by UNCLOS and the goals of chapter 17 of Agenda 21, was established to discuss the annual report of the Secretary-General on oceans and the law of the sea and to suggest particular issues to be considered by the General Assembly, with an emphasis on identifying areas where coordination and cooperation at the intergovernmental and inter-agency levels should be enhanced. Moreover, the Consultative

Process is intended to study overall developments in ocean affairs.

609. The two co-chairpersons of the consultative process, Ambassador Tuiloma Neroni Slade (Samoa) and Mr. Alan Simcock (United Kingdom), were appointed, after consultations with Member States, by the President of the General Assembly in accordance with paragraph 3 (e) of General Assembly resolution 54/33.

610. On the basis of consultations with delegations from 14 to 16 March 2000, deliberations in an informal meeting with delegations held on 12 April 2000 at United Nations Headquarters and comments subsequently submitted by delegations, the co-chairpersons proposed to the first Meeting of the Consultative Process a draft format for discussions and an annotated provisional agenda. The format for the first Meeting provided, among other things, the opportunity to receive input from major groups, as identified in Agenda 21, especially non-governmental organizations. The first Meeting worked through plenary sessions and two discussion panels. On the basis of further consultations with delegations, the co-chairpersons also proposed areas of focus for the discussion panels: (a) responsible fisheries and illegal, unregulated and unreported fisheries: moving from principles to implementation; and (b) economic and social impacts of marine pollution and degradation, especially in coastal areas: international aspects of combating them. The first Meeting of the Consultative Process was held at United Nations Headquarters from 30 May to 2 June 2000.

611. The first Meeting adopted its format and agenda by consensus (A/AC.259/L.1). In addition, in the light of comments from some delegations, which sought to add a reference to the "law of the sea" to the designation of the Consultative Process in resolution 54/33, it was agreed to refer to the process as the "United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea".

612. The first Meeting of the Consultative Process was opened by the Under-Secretary-General for Legal Affairs, The Legal Counsel, and the Under-Secretary-General for Economic and Social Affairs.

613. Discussions at the first and second plenary sessions of the first Meeting were based on annual reports of the Secretary-General on oceans and the law of the sea (A/54/429 and Corr.1 and A/55/61) as well as on other documents before the Meeting, including written submissions by States and international organizations (see A/AC.259/1 and A/AC.259/2).

614. The first Meeting focused on broadening and deepening the understanding of the issues discussed and the need to approach them in a cross-sectoral and integrated manner. Participation by the relevant intergovernmental organizations and representatives of major groups increased the value of the discussions. Consensus was reached on 13 issues,[206] which merited attention by the General Assembly. In the area of international coordination and cooperation, there was an exchange of views with the Chairman and other members of the Subcommittee on Oceans and Coastal Areas of the Administrative Committee on Coordination. Lastly, many delegations, while avoiding fixing the issues to be discussed at subsequent meetings, put forward various possible issues for consideration by the Consultative Process at future meetings.[207]

615. By a letter dated 28 July 2000 addressed to the President of the General Assembly (A/55/274), the co-chairpersons submitted the report on the work of the first Meeting of the Consultative Process, proposing a number of non-exhaustive elements for the consideration of the General Assembly under the agenda item entitled "Oceans and the law of the sea" and for potential inclusion in the relevant General Assembly resolutions, in accordance with paragraph 3 (h) of resolution 54/33. The report was composed of three parts: (a) issues to be suggested and elements to be proposed to the General Assembly; (b) Co-Chairpersons' summary of discussions; and (c) issues for consideration for possible inclusion in the agendas of future Meetings.

616. At the fifty-fifth session of the General Assembly, during the general debate on agenda item 34, entitled "Oceans and the law of the sea", delegations expressed appreciation for the work of the first Meeting of the Consultative Process and were in general agreement on its usefulness, especially as regards the informal consultations conducted in preparation of the General Assembly resolution.

617. The two resolutions adopted by the General Assembly on 30 October 2000 (resolutions 55/7 and 55/8), incorporate many of the issues discussed at the first Meeting of the Consultative Process. These issues were, inter alia, the need for capacity-building for the

implementation of UNCLOS; the problems of illegal, unreported and unregulated (IUU) fishing; and the degradation of the marine environment, from both land-based sources and pollution from ships.

618. In paragraph 41 of resolution 55/7, the General Assembly recommended that the second meeting of the Consultative Process, to be held in New York from 7 to 11 May 2001, should organize its discussions around the following areas of focus: (a) marine science and the development and transfer of marine technology as mutually agreed, including capacity-building in this regard; and (b) coordination and cooperation in combating piracy and armed robbery at sea.

619. The two resolutions on oceans and the law of the sea adopted by the General Assembly at its fifty-fifth session show the usefulness of the discussions that took place at the first Meeting of the Consultative Process and make this process an invaluable tool for the effective and constructive review by the Assembly of developments in oceans and the law of the sea, and thus for the results-oriented stewardship of the world's oceans and seas by the General Assembly.

Notes

[1] GESAMP, A Sea of Troubles, GESAMP Reports and Studies No. 70, United Nations Environment Programme, 15 January 2001.

[2] In recent years, it has become established practice to refer to the Convention as "UNCLOS", although originally this acronym, in the form of "UNCLOS III", was used to refer to the Third United Nations Conference on the Law of the Sea

[3] *The Law of the Sea: Declarations and Statements with respect to the United Nations Convention on the Law of the Sea and to the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea* (United Nations publication, Sales No. E.97.V.3).

[4] The report of the Tenth Meeting is contained in SPLOS/60. It is also available at the web site of the Division for Ocean Affairs and the Law of the Sea: www.un.org/Depts/los.

[5] General Assembly resolution 55/7, para. 9.

[6] Ibid., paras. 18 and 20.

[7] References to the respective letters containing the protests may be found in Law of the Sea Information Circular No. 12, p. 37.

[8] S/2000/821.

[9] *Handbook on the Delimitation of Maritime Boundaries* (United Nations publication, Sales No. E.01.V.2).

[10] These reports can be found at the web site of the Division for Ocean Affairs and the Law of the Sea: www.un.org/Depts/los.

[11] ABLOS is the acronym for the Advisory Board on Geodetic, Hydrographic and Marine Geo-Scientific Aspects of the Law of the Sea (also referred to as the Advisory Board on the Technical Aspects of the Law of the Sea). It was formed in September 1994 by the International Hydrographic Organization and the International Association of Geodesy to provide advice and guidance and, where applicable, offer expert interpretation of the hydrographic, geodetic and other technical aspects of the law of the sea to the parent organizations, their member States or to other organizations on request. In 1999 the Intergovernmental Oceanographic Commission of UNESCO was invited to become associated with ABLOS. The Advisory Board is comprised of three representatives from each organization and one additional member representing the United Nations Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs in an ex-officio capacity.

[12] Proceedings of the International Conference on Technical Aspects of Maritime Boundary Delineation and Delimitation (Including UNCLOS Article 76 Issues), International Hydrographic Bureau, Monaco, 9 and 10 September 1999.

[13] Extracted from the statement of the Secretary-General of IMO on World Maritime Day 2000: "IMO — Building Maritime Partnerships".

[14] *UNCTAD Review of Maritime Transport 2000* (United Nations publication, Sales No. E.00.II.D.34), para. 124.

[15] Ibid.

[16] *Law of the Sea Bulletin*, No. 31, table listing the competent international organizations.

[17] See report of the 72nd session of MSC, document MSC 72/23.

[18] IMO document MEPC 46/12/3, para. 13

[19] See report of the 73rd session of MSC, document MSC 73/21.

[20] See note 17 above.

[21] See IMO document STW 32/6.

[22] MSC 72/6/2, annex.

[23] ILO press release ILO/01/05 of 26 January 2001, available on the ILO web site at: www.ilo.org/public/english/bureau/inf/pr/2001/05.htm.

[24] The report of the second session is contained in IMO document LEG 83/3.

[25] The report is available on the FAO web site: www.fao.org/DOCREP/003/X8002E/X8002E00.htm.

[26] FAO press release 01/02.

[27] For the report of the Working Group, see IMO document FSI 9/15.

[28] See report of the 72nd session of MSC, document MSC 72/23.

[29] NPT/CONF.2000/28, Part I, pp. 10-11.

[30] *ITAR-TASS* news agency, Moscow, 5 February 2001.

[31] *Kyodo News Service*, Tokyo, 22 December 2000.

[32] *Business Day* web site, Johannesburg, 22 January 2001.

[33] NPT/CONF.2000/SR.11.

[34] The report of the Workshop is contained in IMO document LC/SG 23/11, annex 6.

[35] Communiqué of the 31st meeting of the Pacific Island Forum, 27-30 October 2000; A/55/536, paras. 28-33.

[36] For the texts, see the report of the 73rd session of MSC, document MSC 73/21.

[37] See MSC 72/23, para. 10.75, and MSC 73/21, para. 11.33.

[38] See note 19.

[39] See note 34.

[40] Introductory remarks by the Secretary-General of IMO to the 9th session of the Subcommittee on Flag State Implementation.

[41] FSI 9/5/1.

[42] Draft report of the 9th session of the Subcommittee, FSI 9/WP.7, paras. 3.5-3.7.

[43] MSC 73/14/5. In its submission to the Subcommittee, Norway provided information on the procedure for registration of ships in Norway aimed at avoiding double registration; FSI 9/5.

[44] FSI 9/WP.7, sect. 5.

[45] The texts of the Convention and the Protocols are contained in A/55/383.

[46] *The National* (Papua, New Guinea), 24 January 2001.

[47] MSC 73/21, sect. 14.

[48] See article entitled "Piracy attacks rise to alarming new levels, ICC report reveals", dated 1 February 2001, on the web site of ICC at www.iccwbo.org.

[49] Presentation by the International Maritime Bureau at the IMO Regional Seminar and Workshop on Piracy and Armed Robbery against Ships (India, March 2000); MSC 73/14/1, para. 28.

[50] See article entitled "East Asian Governments must clamp down on piracy together", posted on the web page of ICC at: www.iccwbo.org/home/news_archives/2000/piracy_east_asia.asp.

[51] As at 31 January 2001, 52 States had ratified or acceded to the Convention and 48 States to the Protocol.

[52] Circulated as MSC/Circ.984.

[53] For the texts, see IMO document MSC 73/INF.4.

[54] In 1998, IMO conducted two expert missions: one to the Philippines, Malaysia and Indonesia, and another to Brazil.

[55] For the oral report on the outcome of the meeting, see MSC 73/21, para. 14.7.

[56] Ibid., para 14.8.

[57] International Maritime Bureau, Special Report on Piracy and Armed Robbery (March 1998); Oil Companies International Marine Forum, Piracy and Armed Robbery at Sea; International Chamber of Shipping/International Shipping Federation, Pirates and Armed Robbers — A Master's Guide (3rd ed., 1999).

[58] *Bernama* news agency web site, Kuala Lumpur, 23 October 2000.

[59] MSC 73/21, para. 14.7.

[60] For the text of the model national law, see *CMI Yearbook 2000 — Singapore I: Documents for the Conference*, Report of the Joint International Working Group, annex A.

[61] *Migration News Sheet*, June 2000, p. 6.

[62] Extract from *Quarterly Bulletin*, No. 21, summer 2000, published by the International Organization for Migration and available on its web site at www.iom.int/iom.

[63] *RNE Radio 1*, Madrid, 3 October 2000.

[64] See article on "Warning to ship agents against conspiracies to ship illegal immigrants", at the web site of ICC, at: www.iccwbo.org/ccs.news_archives/2000/illegal_immigrants.asp.

[65] The texts of the Convention and the Protocol are contained in document A/55/383, annexes I and III.

[66] See the interpretative notes for the official records (*travaux préparatoires*) of the negotiation of the Convention and the Protocols, A/55/383/Add.1.

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[67] See the report of the Facilitation Committee at its 28th session, document FAL 28/19, annex 4.

[68] For the text of the three instruments, see *International Fisheries Instruments with Index* (United Nations publication, Sales No. E.98.V.11).

[69] Contribution of FAO to the present report.

[70] General Assembly resolution 49/116, para. 1.

[71] General Assembly resolutions 52/29, para. 7, and 53/33, para 7.

[72] *Official Records of the Economic and Social Council, 1999, Supplement No. 9* (E/1999/29), chap. I. C, decision 7/1, para. 18.

[73] Ibid., para. 35 (a).

[74] General Assembly resolutions 55/7, para. 24, and 55/8, paras. 16-18.

[75] Illegal, Unregulated and Unreported (IUU) Fishing and Related Matters, Outcome of the first meeting of the Joint FAO/IMO Ad Hoc Working Group on IUU Fishing and Related Matters, Rome, 9-11 October 2000, Subcommittee on Flag State Implementation, 9th session, agenda item 15, IMO, 8 November 2000, document FSI 9/15.

[76] Ibid., para. 24.

[77] Ibid., annex.

[78] See Report of the Committee on Fisheries, Twenty-fourth session, Rome, Italy, 26 February-2 March 2001.

[79] International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Nature and Scope of IUU Fishing and the International Plan of Action, II, 3.1-3.3.

[80] 1995 Fish Stocks Agreement, article 23; Compliance Agreement, article V (2); Code of Conduct for Responsible Fisheries, article 8.3.2.

[81] A/53/456, para. 267; A/54/429, para. 269; A/55/386, paras. 151-152.

[82] A/53/456, paras. 268-271; A/53/473, para. 135; A/55/386, paras. 156-157.

[83] A/53/473, para. 138; A/54/429, para. 275; A/55/386, para. 159-161.

[84] A/55/386, para. 144.

[85] Ibid., para. 147.

[86] Ibid., para. 250.

[87] Contribution by the South Pacific Applied Geoscience Commission (SOPAC) to the present report.

[88] Contribution by the South Pacific Applied Geoscience Commission (SOPAC) to the present report.

[89] FAO Fishery and Agricultural Legislation: United Kingdom, Fishery Limits Act 1976, sect. 3 (6), vol. 26, No. 2, 1977, p. 89; Sri Lanka, Fisheries Act No. 59 of 1979, Regulation of Foreign Fishing Boats, vol. 29, No. 1, 1980, p. 89; Trinidad and Tobago, Archipelagic Waters and Exclusive Economic Zone Act 1986, sect. 32, vol. 36, No. 2, 1987, p. 107.

[90] Contribution by FAO to the present report.

[91] Law No. 18.892 of 1989 and modifications, General Law on Fisheries and Aquaculture, art. 165, Library of the National Congress of Chile, Juridical-Legislative System, Most consulted law, web site at: www.congreso.cl/ biblioteca/leyes/otras/pesca13.htm.

[92] Contribution by the South Pacific Applied Geoscience Commission (SOPAC) to the present report.

[93] Article XX (g) of the 1994 General Agreement on Tariffs and Trade (GATT) reads as follows:

> "Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
>
> "...
>
> "(g) Relating to the conservation of exhaustible natural resources if such measure are made effective in conjunction with restrictions on domestic production or consumption; ..."

[94] Coastal State Requirements for Foreign Fishing Database, FAO Legal Office, http://faolex.faoorg/cgi-bin/fishery.

[95] Contribution by the South Pacific Applied Geoscience Commission (SOPAC) to the present report.

[96] France, Law No. 66-400 of 18 June 1966, as amended by Law of 18 November 1997.

[97] Argentina, Act No. 23.968 of 14 August 1991, reprinted in *Law of the Sea Bulletin*, No. 20 (1992); Chile, Act 19.079 of 12 August 1991, amending Act 18.892, article 154, *Official Journal of the Republic of Chile*, 6 September 1991; and Peru, Ley General de Pesquarías, approved by Decree-Law 25977 of 7 December 1992, article 1, *Diario el Peruano-Normas Legales*, 22 December 1992.

[98] International Tribunal for the Law of the Sea, 2000, *The "Camouco" Case (Panama v. France)*, Application for Prompt Release, Case No. 5, Judgment, para. 68.

[99] International Tribunal for the Law of the Sea, *The "Monte Confurco" Case (Seychelles v. France)*, Application for Prompt Release, Case No. 6, Judgment, para. 79.

[100] Adoption of the 1995 Fish Stocks Agreement and the 1995 Code of Conduct for Responsible Fisheries.

[101] Progress Report on the Implementation of Conference Resolution 13/97 (Review of FAO Statutory Bodies) and the Strengthening of FAO Regional Fishery Bodies, Committee on Fisheries, Twenty-third Session, Rome, 15-19 February 1999, document COFI/99/4, para. 4.

[102] Report of the General Fisheries Commission for the Mediterranean, Twenty-fourth session, Alicante, Spain, 12-15 July 1999 (GFCM Report 24), paras. 27-28.

[103] COFI/99/4, para. 5.

[104] Report of the Third Session of the Indian Ocean Tuna Commission, Mahe, Seychelles, 9-12 December 1998, document IOTC/03/98/R [E], appendix H.

[105] A/54/461, paras. 33 and 44; Summary Report of the Eighteenth Annual Meeting of NEAFC, 22-25 November 1999, para. 7.

[106] Report of the Fifteenth Meeting of the Commission for the Conservation of Antarctic Marine Living Resources, Hobart, Australia, 21 October-1 November 1996, document CCAMLR-XV, pp. 7-20.

[107] Ibid., Conservation measures adopted in 1996: Conservation measure 103/XV, p. 54.

[108] A/54/429, para. 298.

[109] Article 5 (a), (d) and (f); article 6; articles 12 and 13.

[110] Article 2; article 3 (e) and (g); article 7 and 10; article 19.

[111] Article 5 (a), (b), (c) and (e); article 7 (e), (f) and (g).

[112] Report of the Meeting of FAO and Non-FAO Regional Fishery Bodies or Arrangements, Rome, 11-12 February 1999, document X1212/E, para. 27.

[113] Final press release, 2000 Annual Meeting, Adelaide, Australia: http://ourworld.compuserve.com/homepages/iwcoffice/PRESSRELEASE2000.htm.

[114] Ibid.

[115] Final press release, 28 September, Tenth Meeting of NAMMCO, Sandefjord, Norway, 25-28 September 2000: www.nammco.no/fi-pr-re.htm.

[116] Ibid.

[117] Ibid.

[118] UNEP/CBD/COP/5/23, pp. 74-80.

[119] Report of the thirtieth session of GESAMP, Monaco, 22-26 May 2000, GESAMP Reports and Studies, No. 69, para. 7.7.

[120] UNEP/CBD/COP/5/3, recommendation V/14, annex II.B.

[121] GESAMP, Report of the thirtieth session, Monaco, 22-26 May 2000, GESAMP Reports and Studies, No. 69, para. 7.3.

[122] Much of the following information is excerpted from the information notes prepared by the International Seabed Authority relating to the workshop.

[123] The following paragraphs have been excerpted from the contribution of the International Seabed Authority to the present report.

[124] The seven registered pioneer investors are the Government of India; Institut français de recherche pour l'exploitation de la mer (IFREMER)/Association française pour l'étude et la recherche des nodules (AFERNOD) (France); Deep Ocean Resources Development Co. Ltd. (DORD) (Japan); Yuzhmorgeologiya (Russian Federation); China Ocean Mineral Resources Research and Development Association (COMRA) (China); Interoceanmetal Joint Organization (IOM) (Bulgaria, Cuba, Czech Republic, Poland, Russian Federation and Slovakia); and the Government of the Republic of Korea.

[125] Excerpted from documents and contributions of UNEP and the GPA Coordination Office.

[126] See the report of the twenty-second Consultative Meeting of Contracting Parties to the London Convention (September 2000), IMO document LC 22/14, paras. 2.3-2.6, available on the web site of the Office of the London Convention, at: www.londonconvention.org.

[127] Ibid., annexes 3-10.

[128] IMO document LC 22/3/2.

[129] For the text, see report of the 44th session of MEPC, document MEPC 44/20, annex 3.

[130] For the text of the amendments, see report of the 45th session of MEPC, document MEPC 45/20, annexes 3 and 7.

[131] Ibid., paras. 7.18-7.107, and annex 9.

[132] See note 34.

[133] Participants' Declaration of Resolve from the International Marine Debris Conference on Derelict Fishing Gear and the Ocean Environment, 6-11 August 2000, Hawaii, IMO document MEPC 46/INF.8, annex 2.

[134] MEPC 46/INF.8, para. 22.

[135] IMO document AFS/CONF/2.

[136] MEPC 45/20, para. 2.22.

[137] MEPC 46/3, para. 3.2.2.

[138] IMO document LEG 82/12, annexes 2 and 3.

[139] For the text of the 2000 Protocol, see IMO document LEG/CONF.11/6.

[140] For the text of the resolution, see IMO document LEG/CONF.11/8.

[141] The draft text is contained in IMO document LEG/CONF.12/3.

[142] Black Sea, Caribbean, East Africa, East Asia, ROPME Sea Area (Kuwait region), Mediterranean, North-West Pacific, Red Sea and Gulf of Aden, South Asia, South-East Pacific, South Pacific, West and Central Africa, Baltic, Arctic and North-East Atlantic.

[143] United Nations Environment Programme, *Regional Seas: A Survival Strategy for our Oceans and Coasts* (Geneva, UNEP, 2000), p. 3.

[144] The Meeting recognized the twinning arrangements between the Baltic Marine Environment Commission and UNEP as Secretariat of the Nairobi Convention and between the Jeddah Convention and Kuwait Convention.

[145] Further information on the work undertaken by UNEP regarding the regional seas programme in 1999-2000 in general and in specific regions can be found in document UNEP (DEC) R/S 3.1.0, on the web site of the Division for Ocean Affairs and the Law of the Sea: www.un.org/Depts/los.

[146] Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992, article 3.

[147] The subsidiary bodies are: Strategy Group; Monitoring and Assessment Group; Sea-based Pollution Group; Land-based Pollution Group; Nature Conservation and Coastal Zone Management Group.

[148] France and the United Kingdom abstained and are therefore not bound. Luxembourg was absent.

[149] The Arctic Council is a high-level intergovernmental forum that provides a mechanism to address the common concerns and challenges faced by the Governments and the peoples of the Arctic.

[150] According to a list compiled by the United Nations Department of Economic and Social Affairs, there are 41 States and Territories listed as small island developing States; see annex VI to the present report.

[151] UNCLOS arts. 6, 7(1), 13, 47(1), 47(41, 121(2) re archipelagic States; arts. 46, 47(1), 53(5) re regime of islands; art. 121 re island States; Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, annex, sect. 3, para. 15 (d); United Nations Framework Convention on Climate Change; Agenda 21, chap. 17.G; the 1994 Declaration of Barbados and Programme of Action for the Sustainable Development of Small Island Developing States, which includes chapter I, "Climate change and sea level rise", and chapter IV, "Coastal and marine resources".

[152] See para. 384.

[153] Malmö Declaration, para. 2.

[154] The Global Environment Facility operates the financial mechanisms for the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change.

[155] See A/55/386.

[156] Biodiversity; climate change; ozone layer; international waters.

[157] For GEF/UNDP-funded projects affecting small island developing States (focal area: International Waters Programme), see the GEF-UNDP web site: http://www.undp.org/gef/.

[158] Fifteen Pacific island States and Territories participated in the consultations in a series of multilateral high-level conferences over six years which was concluded on 4 September 2000.

[159] Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, article 2.

[160] Formerly called The South Pacific Forum, an intergovernmental organization with observer status in the United Nations General Assembly. It is made up of 16 member States, 14 of which are Pacific Small Island States.

[161] Summary for Policy Makers, posted by IPCC on its web site (www.ipcc.ch), 22 January 2001.

[162] See IPCC report, pp. 7 and 10 and fig. 5, for illustrations.

[163] See IPCC report entitled "The Regional Impacts of Climate Change", chap. 9; "Small Island States", at the IPCC web site: www.ipcc.ch.

[164] Thirty-first Pacific Islands Forum, Tarawa, Kiribati, 27-30 October 2000, Forum Communiqué 2000, paras. 28-31. Paragraph 29 noted the continuation of constructive dialogue between Forum members and government and nuclear industry representatives from France, Japan and the United Kingdom on a liability regime for compensating the region for economic losses to tourism, fisheries and other industries affected as a result of an accident involving a shipment of radioactive materials and MOX fuel even if there were no actual environmental damage.

[165] Fourth meeting of the Special Committees for the Protection and Conservation of the Environment and the Caribbean and Natural Resources, Port of Spain, 21-23 June 2000, Meeting records, "Transportation of Nuclear Waste in the Caribbean Sea". While acknowledging the legality of shipping under internationally accepted standards, participants raised concerns that even one accident would be devastating to the region, given its fragility and vulnerability.

[166] Forms were distributed to delegates who were in attendance at the Consultative Process to allow them to register their participation. The number quoted is a reflection of the number of States that filled out the forms indicating their participation. The form also provided for a listing of participants in each delegation.

[167] General Assembly resolution 55/7, para. 45.

[168] Ibid., para. 18 and annex II.

[169] Second meeting of the Conference of the Parties to the Convention on Biological Diversity, decision II/10, annex I, para. (iv).

[170] A/55/274, part B, para. 28, and part C, para. 2 (e).

[171] See MEPC 45/20.

[172] See note 161.

[173] Not yet in force. The Protocol is based on the concept of "common but differentiated responsibilities" (art. 3), in which developed States (known as Annex 1 countries) take the lead in reducing national greenhouse gas emissions (although some have argued in favour of increasing their levels of emission) to agreed levels that would lead overall to decreased emission of greenhouse gases into the Earth's atmosphere.

[174] See, in particular, UNCLOS, parts II and V.

[175] Report to the Sixth Conference of the Parties to the United Nations Framework Convention on Climate Change, 20 November 2000.

[176] See ACC/2000/12, paras. 24-29.

[177] For further details on the 10-year review of Agenda 21 and the preparatory processes, see the following web site: www.un.org/rio+10.

[178] The updated list of conciliators and arbitrators drawn up by the Secretary-General of the United Nations in accordance with article 2 of Annex V and article 2 of Annex VII, respectively, to UNCLOS, as well as the updated list of special arbitrators under article 2 of Annex VIII to UNCLOS received by the Secretary-General of the United Nations from FAO, UNEP, IOC and IMO, are periodically published in the *Law of the Sea Information Circular* by the Division for Ocean Affairs and the Law of the Sea.

[179] Excerpted from the contribution of ICJ. See also the annual report of the Court to the General Assembly, *Official Records of the General Assembly, Fifty-fifth Session, Supplement No. 4* (A/55/4), and the ICJ web site: www.icj-cij.org.

[180] Excerpted from Tribunal documents.

[181] The composition of the special chamber (P. Chandrasekhara Rao, President; Judges: Caminos, Yankov, Wolfrum; and Judge ad hoc: Orrego Vicuña) was determined by the Tribunal with the approval of the parties. In keeping with the Statute of the Tribunal, a judgment rendered by the special chamber will be considered as having been rendered by the full Tribunal (see annual report of the International Tribunal for the Law of the Sea for 2000, SPLOS/63).

[182] The full text of the Award and the dissenting opinion are posted on the ICSID web site: www.worldbank.org/icsid.

[183] For further details, see *Marine Scientific Research, a Guide to the Implementation of the Relevant Provisions of UNCLOS* (United Nations publication, Sales No. E.91.V.3); and "Marine scientific research: report of the Secretary-General" (A/45/563).

[184] See David A. Ross and Judith Fenwick: *Marine scientific research: US perspective on jurisdiction and international cooperation*; in Lewis M. Alexander, Scott Allen, Lynne Carter Hanson (eds.), *Proceedings of the 22nd Annual Conference of the Law of the Sea Institute, June 12-16, 1988*, p. 217.

[185] See Alfred H. A. Soons: *The developing regime of marine scientific research: recent European experience and State practice*, and David A. Ross and Judith Fenwick, op. cit., note 184 above.

[186] United Nations publication, Sales No. E.89.V.9.

[187] See note 183.

[188] United Nations publication, Sales No. E.94.V.13.

[189] United Nations publication, Sales No. E.94.V.9.

[190] See also the discussions on article 246 in: *Marine Scientific Research: Legislative History of Article 246 of the United Nations Convention on the Law of the Sea* (see note 189 above).

[191] See United Nations publication *Marine Scientific Research: A guide to the relevant provisions of the United Nations Convention on the Law of the Sea* (United Nations publication, Sales No. E.91.V.3), annex I. International organizations are encouraged to use the same form, although they are not required to do so under article 247.

[192] The questionnaire was prepared in collaboration with the Division for Ocean Affairs and the Law of the Sea. Less than 25 States responded.

[193] See IOC/WG-LOS-I/6/Rev.1.

[194] Final Act of the Third United Nations Conference on the Law of the Sea, annex VI. In: *The Law of the Sea: Official Texts of the United Nations Convention on the Law of the Sea of 10 December 1982 and of the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, with Index and excerpts from the Final Act of the Third United Nations Conference on the Law of the Sea* (United Nations publication, Sales No. E.97.V.10), p. 206.

[195] See IOC/INF-961 (1994).

[196] See Twenty-seventh Session of the IOC Executive Council, Paris, 5-12 July 1994, document IOC/EC-XXVII/3.

[197] See IOC Assembly resolution XIX-19 and annex for terms of reference of ABE-LOS.

[198] The Division for Ocean Affairs and the Law of the Sea is also an invited observer at ABE-LOS meetings.

[199] *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. XV (United Nations publication, Sales No. E.83.V.4), Documents of the Conference, document A/CONF.62/L.76.

[200] Cited in "Capacity Assessment and Development", Technical Advisory Paper No. 3, Bureau for Development Policies, UNDP, January 1998, footnote 5.

[201] See the web site of the UNDP SIOCAM programme: siocam.sdnp.undp.org.

[202] For a detailed description of the programme, see A/54/429, paras. 588-594, and A/55/61, paras. 267-268.

[203] The TRAIN-X network is a UNDP-sponsored cooperative network of United Nations agency human resources development programmes, one of which is the TSC Programme.

[204] GESAMP 2000. Report of the Thirtieth Session, Monaco, 22-26 May 2000. GESAMP Reports and Studies, No. 69, 68 p.

[205] WHO confirmed its support for the evaluation and its preparedness to be actively involved, but stated that it was not in a position to contribute to defraying the costs.

[206] See also the report on the work of the Consultative Process at its first meeting, A/55/274, part A, paras. 1-50.

[207] Ibid., part C, paras. 1-4.

Annex I
Status of UNCLOS and the implementing Agreements — chronological listing

1982 UNCLOS — ratifications, accessions, successions
1. Fiji (10 December 1982)
2. Zambia (7 March 1983)
3. Mexico (18 March 1983)
4. Jamaica (21 March 1983)
5. Namibia (18 April 1983)
6. Ghana (7 June 1983)
7. Bahamas (29 July 1983)
8. Belize (13 August 1983)
9. Egypt (26 August 1983)
10. Côte d'Ivoire (26 March 1984)
11. Philippines (8 May 1984)
12. Gambia (22 May 1984)
13. Cuba (15 August 1984)
14. Senegal (25 October 1984)
15. Sudan (23 January 1985)
16. Saint Lucia (27 March 1985)
17. Togo (16 April 1985)
18. Tunisia (24 April 1985)
19. Bahrain (30 May 1985)
20. Iceland (21 June 1985)
21. Mali (16 July 1985)
22. Iraq (30 July 1985)
23. Guinea (6 September 1985)
24. United Republic of Tanzania (30 September 1985)
25. Cameroon (19 November 1985)
26. Indonesia (3 February 1986)
27. Trinidad and Tobago (25 April 1986)
28. Kuwait (2 May 1986)
29. Yugoslavia (5 May 1986)
30. Nigeria (14 August 1986)
31. Guinea-Bissau (25 August 1986)
32. Paraguay (26 September 1986)
33. Yemen (21 July 1987)
34. Cape Verde (10 August 1987)
35. Sao Tome and Principe (3 November 1987)
36. Cyprus (12 December 1988)
37. Brazil (22 December 1988)
38. Antigua and Barbuda (2 February 1989)
39. Democratic Republic of the Congo (17 February 1989)
40. Kenya (2 March 1989)
41. Somalia (24 July 1989)
42. Oman (17 August 1989)
43. Botswana (2 May 1990)
44. Uganda (9 November 1990)
45. Angola (5 December 1990)
46. Grenada (25 April 1991)
47. Micronesia (Federated States of) (29 April 1991)
48. Marshall Islands (9 August 1991)
49. Seychelles (16 September 1991)
50. Djibouti (8 October 1991)
51. Dominica (24 October 1991)
52. Costa Rica (21 September 1992)
53. Uruguay (10 December 1992)
54. Saint Kitts and Nevis (7 January 1993)
55. Zimbabwe (24 February 1993)
56. Malta (20 May 1993)
57. Saint Vincent and the Grenadines (1 October 1993)
58. Honduras (5 October 1993)
59. Barbados (12 October 1993)
60. Guyana (16 November 1993)
61. Bosnia and Herzegovina (12 January 1994)
62. Comoros (21 June 1994)
63. Sri Lanka (19 July 1994)
64. Viet Nam (25 July 1994)
65. The former Yugoslav Republic of Macedonia (19 August 1994)
66. Australia (5 October 1994)
67. Germany (14 October 1994)
68. Mauritius (4 November 1994)
69. Singapore (17 November 1994)
70. Sierra Leone (12 December 1994)
71. Lebanon (5 January 1995)
72. Italy (13 January 1995)
73. Cook Islands (15 February 1995)
74. Croatia (5 April 1995)
75. Bolivia (28 April 1995)
76. Slovenia (16 June 1995)
77. India (29 June 1995)
78. Austria (14 July 1995)
79. Greece (21 July 1995)
80. Tonga (2 August 1995)
81. Samoa (14 August 1995)
82. Jordan (27 November 1995)
83. Argentina (1 December 1995)
84. Nauru (23 January 1996)
85. Republic of Korea (29 January 1996)
86. Monaco (20 March 1996)
87. Georgia (21 March 1996)
88. France (11 April 1996)
89. Saudi Arabia (24 April 1996)
90. Slovakia (8 May 1996)
91. Bulgaria (15 May 1996)
92. Myanmar (21 May 1996)
93. China (7 June 1996)
94. Algeria (11 June 1996)
95. Japan (20 June 1996)
96. Czech Republic (21 June 1996)
97. Finland (21 June 1996)
98. Ireland (21 June 1996)
99. Norway (24 June 1996)
100. Sweden (25 June 1996)
101. Netherlands (28 June 1996)
102. Panama (1 July 1996)
103. Mauritania (17 July 1996)
104. New Zealand (19 July 1996)
105. Haiti (31 July 1996)
106. Mongolia (13 August 1996)
107. Palau (30 September 1996)
108. Malaysia (14 October 1996)
109. Brunei Darussalam (5 November 1996)
110. Romania (17 December 1996)
111. Papua New Guinea (14 January 1997)
112. Spain (15 January 1997)
113. Guatemala (11 February 1997)
114. Pakistan (26 February 1997)
115. Russian Federation (12 March 1997)
116. Mozambique (13 March 1997)
117. Solomon Islands (23 June 1997)
118. Equatorial Guinea (21 July 1997)
119. United Kingdom of Great Britain and Northern Ireland (25 July 1997)
120. Chile (25 August 1997)

1982 UNCLOS — ratifications, accessions, successions

121.	Benin (16 October 1997)
122.	Portugal (3 November 1997)
123.	South Africa (23 December 1997)
124.	Gabon (11 March 1998)
125.	European Community (1 April 1998)
126.	Lao People's Democratic Republic (5 June 1998)
127.	Suriname (9 July 1998)
128.	Nepal (2 November 1998)
129.	Belgium (13 November 1998)
130.	Poland (13 November 1998)
131.	Ukraine (26 July 1999)
132.	Vanuatu (10 August 1999)
133.	Nicaragua (3 May 2000)
134.	Maldives (7 September 2000)
135.	Luxembourg (5 October 2000)

1994 Agreement relating to the implementation of Part XI of the Convention — ratifications, accessions

1.	Kenya (29 July 1994)
2.	The former Yugoslav Republic of Macedonia (19 August 1994)
3.	Australia (5 October 1994)
4.	Germany (14 October 1994)
5.	Belize (21 October 1994)
6.	Mauritius (4 November 1994)
7.	Singapore (17 November 1994)
8.	Sierra Leone (12 December 1994)
9.	Seychelles (15 December 1994)
10.	Lebanon (5 January 1995)
11.	Italy (13 January 1995)
12.	Cook Islands (15 February 1995)
13.	Croatia (5 April 1995)
14.	Bolivia (28 April 1995)
15.	Slovenia (16 June 1995)
16.	India (29 June 1995)
17.	Paraguay (10 July 1995)
18.	Austria (14 July 1995)
19.	Greece (21 July 1995)
20.	Senegal (25 July 1995)
21.	Cyprus (27 July 1995)
22.	Bahamas (28 July 1995)
23.	Barbados (28 July 1995)
24.	Côte d'Ivoire (28 July 1995)
25.	Fiji (28 July 1995)
26.	Grenada (28 July 1995)
27.	Guinea (28 July 1995)
28.	Iceland (28 July 1995)
29.	Jamaica (28 July 1995)
30.	Namibia (28 July 1995)
31.	Nigeria (28 July 1995)
32.	Sri Lanka (28 July 1995)
33.	Togo (28 July 1995)
34.	Trinidad and Tobago (28 July 1995)
35.	Uganda (28 July 1995)
36.	Yugoslavia (28 July 1995)
37.	Zambia (28 July 1995)
38.	Zimbabwe (28 July 1995)
39.	Tonga (2 August 1995)
40.	Samoa (14 August 1995)
41.	Micronesia (Federated States of) (6 September 1995)
42.	Jordan (27 November 1995)
43.	Argentina (1 December 1995)
44.	Nauru (23 January 1996)
45.	Republic of Korea (29 January 1996)
46.	Monaco (20 March 1996)
47.	Georgia (21 March 1996)
48.	France (11 April 1996)
49.	Saudi Arabia (24 April 1996)
50.	Slovakia (8 May 1996)
51.	Bulgaria (15 May 1996)
52.	Myanmar (21 May 1996)
53.	China (7 June 1996)
54.	Algeria (11 June 1996)
55.	Japan (20 June 1996)
56.	Czech Republic (21 June 1996)
57.	Finland (21 June 1996)
58.	Ireland (21 June 1996)
59.	Norway (24 June 1996)
60.	Sweden (25 June 1996)
61.	Malta (26 June 1996)
62.	Netherlands (28 June 1996)
63.	Panama (1 July 1996)
64.	Mauritania (17 July 1996)
65.	New Zealand (19 July 1996)
66.	Haiti (31 July 1996)
67.	Mongolia (13 August 1996)
68.	Palau (30 September 1996)
69.	Malaysia (14 October 1996)
70.	Brunei Darussalam (5 November 1996)
71.	Romania (17 December 1996)
72.	Papua New Guinea (14 January 1997)
73.	Spain (15 January 1997)
74.	Guatemala (11 February 1997)
75.	Oman (26 February 1997)
76.	Pakistan (26 February 1997)
77.	Russian Federation (12 March 1997)
78.	Mozambique (13 March 1997)
79.	Solomon Islands (23 June 1997)
80.	Equatorial Guinea (21 July 1997)
81.	Philippines (23 July 1997)
82.	United Kingdom of Great Britain and Northern Ireland (25 July 1997)
83.	Chile (25 August 1997)
84.	Benin (16 October 1997)
85.	Portugal (3 November 1997)
86.	South Africa (23 December 1997)
87.	Gabon (11 March 1998)
88.	European Community (1 April 1998)
89.	Lao People's Democratic Republic (5 June 1998)
90.	United Republic of Tanzania (25 June 1998)
91.	Suriname (9 July 1998)
92.	Nepal (2 November 1998)
93.	Belgium (13 November 1998)
94.	Poland (13 November 1998)
95.	Ukraine (26 July 1999)
96.	Vanuatu (10 August 1999)
97.	Nicaragua (3 May 2000)
98.	Indonesia (2 June 2000)
99.	Maldives (7 September 2000)
100.	Luxembourg (5 October 2000)

1995 Fish Stocks Agreement — ratifications, accessions

1.	Tonga (31 July 1996)
2.	Saint Lucia (9 August 1996)
3.	United States of America (21 August 1996)
4.	Sri Lanka (24 October 1996)
5.	Samoa (25 October 1996)
6.	Fiji (12 December 1996)

1995 Fish Stocks Agreement — ratifications, accessions	
7.	Norway (30 December 1996)
8.	Nauru (10 January 1997)
9.	Bahamas (16 January 1997)
10.	Senegal (30 January 1997)
11.	Solomon Islands (13 February 1997)
12.	Iceland (14 February 1997)
13.	Mauritius (25 March 1997)
14.	Micronesia (Federated States of) (23 May 1997)
15.	Russian Federation (4 August 1997)
16.	Seychelles (20 March 1998)
17.	Namibia (8 April 1998)
18.	Iran (Islamic Republic of) (17 April 1998)
19.	Maldives (30 December 1998)
20.	Cook Islands (1 April 1999)
21.	Papua New Guinea (4 June 1999)
22.	Monaco (9 June 1999)
23.	Canada (3 August 1999)
24.	Uruguay (10 September 1999)
25.	Australia (23 December 1999)
26.	Brazil (8 March 2000)
27.	Barbados (22 September 2000)

Annex II
Summary of national claims to maritime zones

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
Albania		Yes		12				1958 [1]	N/A [2]
Algeria	11/06/1996	Yes		12			32 or 52	1982 [3]	DEL [4]
Angola	05/12/1990	Yes		12	24	200		1982	N/A
Antigua and Barbuda	02/02/1989		Yes	12	24	200		1982	CM/200 [5]
Argentina	01/12/1995	Yes		12	24	200		1982	CM/200
Australia	05/10/1994	Yes		12	24	200		1982	CM/200
Bahamas	29/07/1983		Yes	12		200		1982	N/A
Bahrain	30/05/1985			12	24			1982	N/A
Bangladesh		Yes		12	18	200			CM [6]
Barbados	12/10/1993	Yes		12		200		1982	N/A
Belgium	13/11/1998			12	24	Yes [7]	Yes [8]	1982	DEL
Belize	13/08/1983	Yes		12 [9]		200		1982	N/A
Benin	16/10/1997			200				1982	N/A
Bosnia and Herzegovina	12/01/1994							1982	N/A
Brazil	22/12/1988	Yes		12	24	200		1982	CM/200
Brunei Darussalam	05/11/1996			12		200		1982	N/A
Bulgaria	15/05/1996	Yes		12	24	200		1982	DEL
Cambodia		Yes		12	24	200			200
Cameroon	19/11/1985			12 [10]				1982	CM/200

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[1] Convention on the Continental Shelf, Geneva, 29 April 1958.

[2] No information regarding current legislation is available.

[3] United Nations Convention on the Law of the Sea of 10 December 1982.

[4] Up to delimitation with neighbouring States.

[5] Outer edge of the continental margin, or to 200 nautical miles where the outer edge does not extend up to that distance.

[6] Outer edge of the continental margin.

[7] Defined by coordinates of points.

[8] Coterminous with the Exclusive Economic Zone.

[9] Three-mile limit applies from the mouth of Sarstoon River to Ranguana Caye.

[10] See article 45 of Law 96-06 of 18 January 1996 on the revision of the Constitution of 2 June 1972.

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
Canada				12	24	200		1958	CM/200
Cape Verde	10/08/1987		Yes	12	24	200		1982	200 [11]
Chile	25/08/1997	Yes		12	24	200		1982	N/A
China	07/06/1996	Yes		12	24	200		1982	CM/200
Colombia		Yes		12		200		1958	Limits not specified
Comoros	21/06/1994		Yes	12		200		1982	N/A
Congo				200					N/A
Cook Islands	15/02/1995			12		200		1982	CM/200
Costa Rica	21/09/1992	Yes		12		200		1982	N/A
Côte d'Ivoire	26/03/1984	Yes		12		200		1982	N/A
Croatia	05/04/1995	Yes		12				1982	DEL
Cuba	15/08/1984	Yes		12		200		1982	N/A
Cyprus	12/12/1988	Yes		12				1982	Depth of exploitability
Democratic People's Republic of Korea				12	X [12]	200			N/A
Democratic Republic of the Congo	17/02/1989			12		Yes [13]		1982	N/A
Denmark		Yes		12		200	200 [14]	1958	Depth: 200 m or exp. [15]
Djibouti	08/10/1991	Yes		12	24	200		1982	N/A
Dominica	24/10/1991	Yes		12	24	200		1982	N/A
Dominican Republic		Yes		6	24	200			CM/200
Ecuador		Yes		200 [16]					200 [17]
Egypt	26/08/1983	Yes		12	24	☑ [18]		1982	N/A
El Salvador				200					N/A
Equatorial Guinea	21/07/1997	Yes		12		200		1982	N/A

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[11] 200 nautical miles.

[12] 50-nautical mile military zone. Army Command Announcement of 1 August 1977.

[13] To be determined by delimitation agreements.

[14] For Greenland and Faroe Islands.

[15] 200m depth or depth of exploitability.

[16] Only between the continental territorial sea of Ecuador and its insular territorial sea around the Galápagos Islands.

[17] Also 100 nautical miles from isobath 2,500 m (Only between the continental territorial sea of Ecuador and its insular territorial sea around the Galápagos Islands).

[18] Limit not specified.

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
Eritrea				12		Yes [19]			N/A
Estonia		Yes		12 [20]		Yes [21]			Defined by coordinates
Fiji	10/12/1982		Yes	12		200		1982	Depth: 200 m or exp.
Finland	21/06/1996	Yes		12 [22]	14		Yes[23]	1982	Depth: 200 m or exp.
France	11/04/1996	Yes		12	24	200 [24]		1982	Depth: 200 m or exp.
Gabon	11/03/1998	Yes		12	24	200		1982	N/A
Gambia	22/05/1984			12	18		200	1982	N/A
Georgia	21/03/1996							1982	
Germany	14/10/1994	Yes		12		Yes [25]		1982	Depth: 200 m or exp.
Ghana	07/06/1983			12	24	200		1982	200
Greece	21/07/1995			6 [26]				1982	Depth: 200 m or exp.
Grenada	25/04/1991	Yes		12		200		1982	N/A
Guatemala	11/02/1997			12		200		1982	Limits not specified.
Guinea	06/09/1985			12		200		1982	N/A
Guinea-Bissau	25/08/1986	Yes		12		200		1982	N/A
Guyana	16/11/1993	Yes		12		200		1982	CM/200
Haiti	31/07/1996	Yes		12	24	200		1982	Depth of exploitability.
Honduras	05/10/1993	Yes		12	24	200		1982	Limits not specified.
Iceland	21/06/1985	Yes		12		200		1982	CM/200
India	29/06/1995			12	24	200		1982	CM/200
Indonesia	03/02/1986		Yes	12		200		1982	N/A

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[19] See arbitration Eritrea-Yemen, Award in phase II: Maritime delimitation.

[20] In some parts of the Gulf of Finland, defined by coordinates.

[21] Defined by coordinates.

[22] Extends, with certain exceptions, to 12 nautical miles, unless defined by geographical coordinates. In the Gulf of Finland, the outer limit of the territorial sea shall at no place be closer to the midline than 3 nautical miles, according to the Act amending the Act on the Limits of the Territorial Waters of Finland (981/95).

[23] Defined by coordinates.

[24] Applies to the North Sea, the English Channel and the Atlantic Ocean from the Franco-Belgian border to the Franco-Spanish border, Saint Pierre and Miquelon, French Guiana, Reunion, New Caledonia, French Polynesia, French Southern and Antarctic Lands, Wallis and Futuna, Tromelin, Glorioso, Juan de Nova, Europa and Bassas da India Islands, Clipperton Island, Mayotte, Guadaloupe and Martinique.

[25] Defined by coordinates.

[26] Ten-mile limit applies for the purpose of regulating civil aviation.

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
Iran (Islamic Republic of)		Yes		12	24	Yes[27]			Equidistance line, unless determined by agreement.
Iraq	30/07/1985			12				1982	Limits not specified.
Ireland	21/06/1996	Yes		12			200	1982	Defined by coordinates
Israel				12				1958	Depth of exploitability.
Italy	13/01/1995	Yes		12				1982	Depth: 200 m or exp.
Jamaica	21/03/1983		Yes	12	24	200		1982	CM/200
Japan	20/06/1996	Yes		12 [28]	24	200		1982	CM/200
Jordan	27/11/1995			3				1982	N/A
Kenya	02/03/1989	Yes		12		200		1982	N/A
Kiribati		Yes	Yes	12		200			N/A
Kuwait	02/05/1986			12				1982	Defined by coordinates
Latvia		Yes		12		Yes [29]		1958	DEL [29]
Lebanon	05/01/1995			12				1982	N/A
Liberia				200					N/A
Libyan Arab Jamahiriya				12					N/A
Lithuania		Yes		12					N/A
Madagascar		Yes		12	24	200		1958	200 [30]
Malaysia	14/10/1996			12		200		1982	Depth: 200 m or exp.
Maldives	07/09/2000		Yes	12	24	200		1982	N/A
Malta	20/05/1993	Yes		12	24		25	1982	Depth: 200 m or exp.
Marshall Islands	09/08/1991		Yes	12	24	200		1982	N/A
Mauritania	17/07/1996	Yes		12	24	200		1982	CM/200
Mauritius	04/11/1994	Yes		12		200		1982	CM/200
Mexico	18/03/1983	Yes		12	24	200		1982	CM/200
Micronesia (Federated States of)	29/04/1991			12		200		1982	N/A
Monaco	20/03/1996			12				1982	N/A
Morocco		Yes		12	24	200			Depth: 200 m or exp.
Mozambique	13/03/1997	Yes		12	24	200		1982	CM/200

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[27] Equidistance line unless determined by agreement.

[28] Three-mile limit applies to the Soya Strait, the Tsugaru Strait, the eastern and western channels of the Tsushima Strait and the Osumi Straits only.

[29] Limits established by international agreements concluded with the Republic of Estonia, the Republic of Lithuania and the Kingdom of Sweden.

[30] 200 nautical miles or delimitation agreement or 100 nautical miles from isobath 2,500 m.

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
Myanmar	21/05/1996	Yes		12	24	200		1982	CM/200
Namibia	18/04/1983			12	24	200		1982	CM/200
Nauru	23/01/1996	Yes		12	24	200		1982	N/A
Netherlands	28/26/1996	Yes		12		Yes [31]		1982	Depth: 200 m or exp.
New Zealand	19/07/1996	Yes		12	24	200		1982	CM/200
Nicaragua	03/05/2000			200				1982	Natural prolongation (limits not specified).
Nigeria	14/08/1986			12		200		1982	Depth: 200 m or exp.
Niue				12		200 [32]			N/A
Norway	24/06/1996	Yes		4	10	200	200 [33]	1982	CM/200
Oman	17/08/1989	Yes		12	24	200		1982	Limits not specified.
Pakistan	26/02/1997	Yes		12	24	200		1982	CM/200
Palau	30/09/1996			3			200	1982	N/A
Panama	01/07/1996			12	24	200		1982	CM/200
Papua New Guinea	14/01/1997		Yes	12 [34]			200	1982	Depth: 200 m or exp.
Peru				200 [35]					200
Philippines	08/05/1984		Yes	X [36]		200		1982	Depth of exploitability.
Poland	13/11/1998			12		Yes [37]		1982	N/A
Portugal	03/11/1997	Yes		12	24	200		1982	Depth of exploitability.
Qatar				12	24	Yes [38]			N/A
Republic of Korea	29/01/1996	Yes		12	24	200		1982	N/A
Romania	17/12/1996	Yes		12	24	200		1982	N/A
Russian Federation	12/03/1997	Yes		12	24	200		1982	CM/200
Saint Kitts and Nevis	07/01/1993	Yes		12	24	200		1982	CM/200

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[31] Defined by coordinates of points.

[32] 200 nautical miles or median line.

[33] Jan Mayen and Svalbard.

[34] Three nautical miles in certain areas.

[35] Called "Maritime Dominion" in article 54 of the 1993 Constitution: "... In its maritime dominion, Peru exercises sovereignty and jurisdiction, without prejudice to the freedoms of international communication, in accordance with the law and the treaties ratified by the State ...".

[36] Rectangle defined by coordinates. Claim extends beyond 12 nautical miles.

[37] To be determined by international treaties.

[38] To be determined by agreement or up to the equidistance line.

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
Saint Lucia	27/03/1985			12	24	200		1982	CM/200
Saint Vincent and the Grenadines	01/10/1993		Yes	12	24	200		1982	N/A
Samoa	14/08/1995	Yes		12		200		1982	N/A
Sao Tome and Principe	03/11/1987		Yes	12		200		1982	N/A
Saudi Arabia	24/04/1996	Yes		12	18			1982	Limits not specified.
Senegal	25/10/1984	Yes		12	24	200		1982	CM/200
Seychelles	16/09/1991	Yes		12	24	200		1982	CM/200
Sierra Leone	12/12/1994			12	24	200		1982	200
Singapore	17/11/1994			3				1982	N/A
Slovenia	16/06/1995							1982	N/A
Solomon Islands	23/06/1997		Yes	12		200		1982	200
Somalia	24/07/1989	Yes		200				1982	N/A
South Africa	23/12/1997	Yes		12	24	200		1982	CM/200
Spain	15/01/1997	Yes		12	24	200[39]	Yes[40]	1982	N/A
Sri Lanka	19/07/1994	Yes		12	24	200		1982	CM/200
Sudan	23/01/1985	Yes		12	18			1982	Depth: 200 m or exp.
Suriname	09/07/1998			12		200		1982	N/A
Sweden	25/06/1996	Yes		12		Yes[41]		1982	Depth: 200 m or exp.
Syrian Arab Republic		Yes		35	41				Depth: 200 m or exp.
Thailand		Yes		12	24	200		1958	N/A
Togo	16/04/1985			30		200		1982	N/A
Tonga	02/08/1995	Yes		12		200		1982	N/A
Trinidad and Tobago	25/04/1986		Yes	12	24	200		1982	Depth: 200 m or exp.
Tunisia	24/04/1985	Yes		12	24		Yes[42]	1982	N/A
Turkey				6[43]		200[44]			N/A
Tuvalu		Yes		12	24	200			N/A
Ukraine	26/07/1999	Yes		12		200		1982	N/A
United Arab Emirates		Yes		12	24	200			CM/200

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[39] In the Atlantic Ocean.

[40] In the Mediterranean Sea.

[41] To be determined by agreement or up to equidistance line.

[42] Up to 50-m isobath — Off the Gulf of Gabes.

[43] Six nautical miles in the Aegean Sea, 12 nautical miles in the Black Sea.

[44] In the Black Sea.

STATE	UNCLOS Ratification, Accession (DD/mm/eye)	Does the legislation provide for straight baselines?	Does the State claim archipelago status?	Territorial Sea	Contiguous Zone	Exclusive Economic Zone	Fisheries Zone	Continental Shelf (indicates parties to 1982 Convention or, where the State is not a party to it, parties to 1958 Convention, and their outer limit claims)	
				Breadth of the zone in nautical miles				Party to:	Outer limit
United Kingdom	25/07/1997	Yes		12[45]		200[46]	200or 12[47]	1982	Defined by coordinates.
United Republic of Tanzania	30/09/1985			12		200		1982	N/A
United States of America				12	24	200		1958	CM/200
Uruguay	10/12/1992	Yes		12	24	200		1982	CM
Vanuatu	10/08/1999	Yes	Yes	12	24	200		1982	CM/200
Venezuela		Yes		12	15	200		1958	Depth: 200 m or exp.
Viet Nam	25/07/1994	Yes		12	24	200		1982	CM/200
Yemen	21/07/1987	Yes		12	24	200		1982	CM/200
Yugoslavia	05/05/1986	Yes		12				1982	DEL

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[45] Also three nautical miles. (Three nautical miles in Anguilla, Guernsey, British Indian Ocean Territory, British Virgin Islands, Gibraltar, Montserrat and Pitcairn; 12 nautical miles in United Kingdom, Jersey, Bermuda, Cayman Islands, Falkland Islands, Isle of Man, St. Helena and Dependencies, South Georgia, South Sandwich Islands, and Turks and Caicos Islands.)

[46] Bermuda, Pitcairn, South Georgia, and South Sandwich Islands.

[47] 12 nautical miles in Guernsey; 200 nautical miles in United Kingdom, Anguilla, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Falkland Islands, Montserrat, St. Helena and Dependencies and Turks and Caicos Islands.

Annex III

Deposits of charts and lists of coordinates, maritime zones notifications (MZN)

STATE	MZN Number	MZN Date	Chart	Art. 16(2)	Art. 47(9)	Art. 75(2)	Art.84 (2)
Argentina	M.Z.N.10.1996.LOS	16/09/1996	X	X		X	
Australia	M.Z.N.3.1996.LOS	05/03/1996	X	See note.			
	M.Z.N.36.2000.LOS	18/09/2000		X			
Belgium	M.Z.N.24.1999.LOS	01/06/1999	X	X			X
Chile	M.Z.N.29.1999.LOS	29/07/1999	X	X		X	X
	M.Z.N.37.2000.LOS	28/09/2000	X	X		X	X
China	M.Z.N.7.1996.LOS	05/07/1996		X			
Costa Rica	M.Z.N.13.1997.LOS	27/01/1997	X			X	
Cyprus	M.Z.N.6.1996.LOS	30/06/1996	X	X			
Equatorial Guinea	M.Z.N.25.1999.LOS	02/06/1999		X		X	
Finland	M.Z.N.8.1996.LOS	21/07/1996	X	X			
	M.Z.N.16.1997.LOS	30/09/1997	X	X		X	X
Gabon	M.Z.N.31.1999.LOS	11/10/1999		X			
Germany	M.Z.N.1.1995.LOS	08/03/1995	X	X		X	
	M.Z.N.4.1996.LOS	25/03/1996	X	See note.			
Honduras	M.Z.N.35.2000.LOS	17/04/2000		X			
Italy	M.Z.N.5.1996.LOS	19/04/1996	X	X			X
Jamaica	M.Z.N.11.1996.LOS	16/10/1996			X		
Japan	M.Z.N.14.1997.LOS	06/06/1997	X	X			
	M.Z.N.18.1998.LOS	23/06/1998	X	X			
	M.Z.N.20.1998.LOS	19/08/1998	X	X			
	M.Z.N.21.1998.LOS	30/11/1998	X	X			
	M.Z.N.26.1999.LOS	03/06/1999	X	X			
	M.Z.N.28.1999.LOS	28/06/1999	X	X			
	M.Z.N.33.2000.LOS	28/03/2000	X	X			
Myanmar	M.Z.N.12.1997.LOS	27/01/1997	X	X			
Nauru	M.Z.N.23.1999.LOS	19/02/1999		X		X	
Norway	M.Z.N.9.1996.LOS	25/08/1996	X	X		X	X
	M.Z.N.32.2000.LOS	14/03/2000				X	X
Oman	M.Z.N.2.1996.LOS	20/02/1996	X	See note.			
Pakistan	M.Z.N.27.1999.LOS	04/06/1999	X	X			
Romania	M.Z.N.15.1997.LOS	07/08/1997	X	X			
Sao Tome and Principe	M.Z.N.17.1998.LOS	07/05/1998	X		X	X	
Spain	M.Z.N.19.1998.LOS	23/06/1998				X	
	M.Z.N.34.2000.LOS	14/04/2000				X	
Tunisia	M.Z.N.22.1998.LOS	16/12/1998		X			
Uruguay	M.Z.N.30.1999.LOS	30/07/1999	X	X		X	

Note: Charts provided to the United Nations indicate only sea lanes and traffic separation schemes to which due publicity should be given under articles 22 and 41 of UNCLOS.

Annex IV
Regional fisheries management organizations and arrangements

FAO regional fisheries bodies

1. Asia-Pacific Fishery Commission (APFIC)
2. General Fisheries Commission for the Mediterranean (GFCM)
3. Fishery Commission for the Eastern Central Atlantic (CECAF)
4. Western Central Atlantic Fishery Commission (WECAFC)
5. Indian Ocean Tuna Commission (IOTC)

Non-FAO regional fisheries bodies

1. Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
2. Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
3. Forum Fisheries Agency (FFA)
4. International Baltic Sea Fishery Commission (IBSFC)
5. Inter-American Tropical Tuna Commission (I-ATTC)
6. International Council for the Exploration of the Sea (ICES)
7. International Commission for the Conservation of Atlantic Tunas (ICCAT)
8. Northwest Atlantic Fisheries Organization (NAFO)
9. Comite Regional des Peches du Golfe de Guinee (COREP)
10. Commission sous-regionale des peches (CSRP)
11. Joint Technical Commission for the Argentine/Uruguay Maritime Boundary (CTMFM)
12. North Atlantic Marine Mammal Commission (NAMMCO)
13. North Atlantic Salmon Conservation Organization (NASCO)
14. North East Atlantic Fisheries Commission (NEAFC)
15. International Pacific Halibut Commission (IPHC)
16. North Pacific Anadromous Fish Commission (NPAFC)
17. North Pacific Marine Science Organization (PICES)
18. Pacific Salmon Commission (PSC)
19. South Pacific Permanent Commission (CPPS)
20. Pacific Community (SPC)
21. Latin American Organization for the Development of Fisheries (OLDEPESCA)
22. International Whaling Commission (IWC)
23. Ministerial Conference on Fisheries Cooperation Among African States Bordering the Atlantic Ocean

Annex V

UNEP regional seas conventions and protocols[1]

CONVENTIONS (showing Date and Place of Adoption, and Date of Entry into Force)	**PROTOCOLS** (showing Date and Place of Adoption, and Date of Entry into Force)	PROTOCOLS BY SUBJECT						
		Pollution from Oil and Harmful Substances	Land-based activities	Specially Protected Areas	Radioactivity	Transboundary movement of wastes	Exploration and Exploitation	Dumping
	Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft Adopted: (Barcelona, 16.2.1976) Entry into Force: 12.2.1978							X
Convention for the Protection of the Mediterranean Sea against Pollution Adopted: (Barcelona, 16.2.1976) Entry into Force: 12.2.1978	Amendment to the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft Adopted: (Barcelona, 10.6.1995) Entry into Force: Not yet							X
Amendment to the Convention for the Protection of the Mediterranean Sea Against Pollution Adopted: (Barcelona, 10.6.1995) Entry into Force: Not yet	Protocol Concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency Adopted: (Barcelona, 16.2.1976) Entry into Force: 12.2.1978	X						
	Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources Adopted: (Athens, 17.5.1980) Entry into Force: 17.6.1983		X					
	Amendment to the Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources Adopted: (Syracuse, 7.3.1996) Entry into Force: Not yet		X					

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[1] Source: UNEP, UNEP Water Policy and Strategy (UNEP (DEC) RS 3.1.0), annex 4, matrix 2.

CONVENTIONS (showing Date and Place of Adoption, and Date of Entry into Force)	PROTOCOLS (showing Date and Place of Adoption, and Date of Entry into Force)	PROTOCOLS BY SUBJECT						
		Pollution from Oil and Harmful Substances	Land-based activities	Specially Protected Areas	Radioactivity	Transboundary movement of wastes	Exploration and Exploitation	Dumping
	Protocol concerning Mediterranean Specially Protected Areas Adopted: (Geneva, 3.4.1982) Entry into Force: 23.3.1986			X				
	Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its subsoil Adopted: (Madrid, 14.10.1994) Entry into Force: Not yet						X	
	Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean Adopted: (Barcelona, 10.6.1995) Entry into Force: Not yet			X				
	Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal Adopted: (Izmir, 1.10.1996) Entry into Force: Not yet					X		
Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution Adopted: (Kuwait, 24.4.1978) Entry into Force: 1.7.1979	Protocol Concerning Regional Cooperation in Combating Pollution by Oil and other Harmful Substances in Cases of Emergency Adopted: (Kuwait, 24.4.1978) Entry into Force: 1.7.1979	X						
	Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf Adopted: (Kuwait, 29.3.1989) Entry into Force: 17.2.1990						X	
	Protocol for the Protection of the Marine Environment Against Pollution from Land-Based Sources Adopted: (Kuwait, 21.2.1990) Entry into Force: 2.1.1993		X					

CONVENTIONS (showing Date and Place of Adoption, and Date of Entry into Force)	**PROTOCOLS** (showing Date and Place of Adoption, and Date of Entry into Force)	PROTOCOLS BY SUBJECT						
		Pollution from Oil and Harmful Substances	Land-based activities	Specially Protected Areas	Radioactivity	Transboundary movement of wastes	Exploration and Exploitation	Dumping
	Protocol on the Control of Marine Transboundary Movements and Disposal of Hazardous Wastes and Other Wastes Adopted: (Teheran, 17.3.1998) Entry into Force: Not yet					X		
Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region Adopted: (Abidjan, 23.3.1981) Entry into Force: 5.8.1984	Protocol Concerning Cooperation in Combating Pollution in Cases of Emergency in the West and Central African Region Adopted: (Abidjan, 23.3.1981) Entry into Force: 5.8.1984	X						
Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific Adopted: (Lima, 12.11.1981) Entry into Force: 19.5.1986	Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Hydrocarbons or other Harmful Substances in Cases of Emergency Adopted: (Lima, 12.11.1981) Entry into Force: 14.7.1986	X						
	Supplementary Protocol to the Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Hydrocarbons or Other Harmful Substances Adopted: (Quito, 22.7.1983) Entry into Force: 20.5.1987	X						
	Protocol for the Protection of the South-East Pacific Against Pollution from Land-based Sources Adopted: (Quito, 22.7.1983) Entry into Force: 21.9.1986		X					
	Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific Adopted: (Paipa, 21.9.1989) Entry into Force: 18.10.1994			X				

CONVENTIONS (showing Date and Place of Adoption, and Date of Entry into Force)	**PROTOCOLS** (showing Date and Place of Adoption, and Date of Entry into Force)	PROTOCOLS BY SUBJECT						
		Pollution from Oil and Harmful Substances	Land-based activities	Specially Protected Areas	Radioactivity	Transboundary movement of wastes	Exploration and Exploitation	Dumping
	Protocol for the Protection of the South-East Pacific against Radioactive Contamination Adopted: (Paipa, 21.9.1989) Entry into Force: 25.1.1995				X			X
Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment Adopted: (Jeddah, 14.2.1982) Entry into Force: 20.8.1985	Protocol Concerning Regional Cooperation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency Adopted: (Jeddah, 14.2.1982) Entry into Force: 20.8.1985	X						
Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region Adopted: (Cartagena de Indias, 24.3.1983) Entry into Force: 11.10.1986	Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region Adopted: (Cartagena de Indias, 24.3.1983) Entry into Force: 11.10.1986	X						
	Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region Adopted: (Kingston, 18.1.1990) Entry into Force: 25.5.2000			X				
	Protocol Concerning Marine Pollution from Land-Based Sources and Activities Adopted: (Kingston, October 1999) Entry into Force: Not yet		X					
Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region Adopted: (Nairobi, 21.6.1985) Entry into Force: 30.5.1996	Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region Adopted: (Nairobi, 21.6.1985) Entry into Force: 30.5.1996			X				

CONVENTIONS (showing Date and Place of Adoption, and Date of Entry into Force)	**PROTOCOLS** (showing Date and Place of Adoption, and Date of Entry into Force)	PROTOCOLS BY SUBJECT						
		Pollution from Oil and Harmful Substances	Land-based activities	Specially Protected Areas	Radioactivity	Transboundary movement of wastes	Exploration and Exploitation	Dumping
	Protocol Concerning Cooperation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region Adopted: (Nairobi, 21.6.1985) Entry into Force: 30.5.1996	X						
Convention for the Protection of the Natural Resources and Environment of the South Pacific Region Adopted: (Noumea, 25.11.1986) Entry into Force: 22.8.1990	Protocol Concerning Cooperation in Combating Pollution Emergencies in the South Pacific Region Adopted: (Noumea, 25.11.1986) Entry into Force: 22.8.1990	X						
	Protocol for the Protection of Pollution of the South Pacific Region by Dumping Adopted: (Noumea, 25.11.1986) Entry into Force: 22.8.1990							X
Convention on the Protection of the Black Sea against Pollution Adopted: (Bucharest, 21.4.1992) Entry into Force: 15.1.1994	Protocol on Protection of the Black Sea Marine Environment Against Pollution from Land-based Sources Adopted: (Bucharest, 21.4.1992) Entry into Force: 15.1.1994		X					
	Protocol on Cooperation in Combating Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations Adopted: (Bucharest, 21.4.1992) Entry into Force: 15.1.1994	X						
	Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping Adopted: (Bucharest, 21.4.1992) Entry into Force: 15.1.1994							X

Annex VI
Small island developing States and Territories*

AFRICA
1. **Cape Verde** (Population: 436,000 (1995); Terrain: rugged, rocky, volcanic; Coastline: 965 km;)
2. **Comoros** (Population: 550,000 (1995); Terrain: volcanic islands; Coastline: 340 km;)
3. **Mauritius** (Population: 1,127,000 (1995); Terrain: Small coastal plain, central plateau; Coastline: 177 km)
4. **Sao Tome and Principe** (Population: 140,400 (1995); Terrain: volcanic, mountainous; Coastline: 209 km)
5. **Seychelles** (Population: 77,400 (1997); Terrain: narrow coastal strip, coral, flat; Coastline: 491 km)
ASIA AND THE PACIFIC
1. **Bahrain** [1] (Population: 580,400 (1996); Terrain: mostly low-desert plain; Coastline: 161 km)
2. **Cook Islands** [2] (Population: 19,400 (1995); Terrain: low coral atolls, volcanic, hilly; Coastline: 120 km)
3. **Fiji** (Population: 773,000 (1996); Terrain: mountainous of volcanic origin, coral atolls; Coastline: 1,129 km)
4. **Kiribati** (Population: 79,000 (1995); Terrain: low-lying coral atolls; Coastline: 1,143 km)
5. **Maldives** (Population: 245,000 (1995); Terrain: flat; Coastline: 644 km)
6. **Marshall Islands** (Population: 56,000 (1995); Terrain: low coral limestone and sand islands; Coastline: 370 km)
7. **Micronesia** (Population: 123,000 (1995); Terrain: low coral atolls, volcanic, mountainous; Coastline: 6,112 km)
8. **Nauru** (Population: 10,200 (1995); Terrain: sandy beach, coral reefs, phosphate plateau; Coastline: 30 km)
9. **Niue** [3] (Population: 2,300 (1994); Terrain: limestone cliffs, central plateau; Coastline: 64 km)
10. **Palau** (Population: 16,700 (1995); Terrain: low coral islands, mountainous main island; Coastline: 1,519 km)
11. **Papua New Guinea** (Population: 4,295,000 (1995); Terrain: coastal lowlands, mountains; Coastline: 5,152 km)
12. **Samoa** (Population: 165,200 (1996); Terrain: narrow coastal plains, interior mountains; Coastline: 403 km)
13. **Singapore** (Population: 2,987,000 (1995); Terrain: lowland, undulating central plateau; Coastline: 193 km)
14. **Solomon Islands** (Population: 399,000 (1995); Terrain: low coral atolls, rugged mountains; Coastline: 5,313 km)
15. **Tokelau** [4] (Population: 1,690 (1986); Terrain: atolls; Coastline: 101 km)
16. **Tonga** (Population: 105,600 (1995); Terrain: coral formation, volcanic; Coastline: 419 km)
17. **Tuvalu** (Population: 10,000 (1995); Terrain: low-lying and narrow coral atolls; Coastline: 24 km)
18. **Vanuatu** (Population: 177,400 (1997); Terrain: narrow coastal plains, mountains of volcanic origin; Coastline: 2,528 km)
EUROPE
1. **Cyprus** (Population: 737,000 (1995); Terrain: plains, mountains; Coastline: 648 km)
2. **Malta** (Population: 375,000 (1995); Terrain: low, flat plains, coastal cliffs; Coastline: 140 km)
LATIN AMERICA AND THE CARIBBEAN
1. **Antigua and Barbuda** (Population: 67,500 (1995); Terrain: low-lying limestone and coral islands; Coastline: 153 km)
2. **Aruba** [5] (Population: 79,800 (1996); Terrain: flat with few hills; Coastline: 68.5 km)
3. **The Bahamas** (Population: 284,000 (1996); Terrain: long, flat coral formations; Coastline: 3,542 km)
4. **Barbados** (Population: 257,000 (1995); Terrain: flat, central highland; Coastline: 97 km)
5. **Cuba** (Population: 10,998,500 (1995); Terrain: terraced plains, small hills, mountains; Coastline: 5,746 km)
6. **Dominica** (Population: 83,000 (1995); Terrain: rugged mountains of volcanic origin; Coastline: 148 km)
7. **Dominican Republic** [6] (Population: 7,823,000 (1995); Terrain: rugged highlands, mountains with valleys; Coastline: 1,288 km)
8. **Grenada** (Population: 94,500 (1995); Terrain: volcanic in origin, central mountains; Coastline: 121 km)
9. **Haiti** (Population: 7,325,000 (1996) Coastline: 1771 km)
10. **Jamaica** (Population: 2,528,000 (1996); Terrain: narrow coastal plains, mountains; Coastline: 1,022 km)
11. **Netherlands Antilles** [7] (Population: 204,000 (1995); Terrain: hilly, volcanic interiors; Coastline: 364 km)
12. **St. Kitts and Nevis** (Population: 41,000 (1995); Terrain: volcanic, mountainous interiors; Coastline: 135 km)

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* Compiled by the United Nations Department of Economic and Social Affairs. Population figures are estimates and are rounded. Data are based on Counterpart International.

[1] Not a member of the Alliance of Small Island States (AOSIS).

[2] Not a member of the United Nations.

[3] Not a member of the United Nations.

[4] Non-Self-Governing Territory administered by New Zealand. Not a member of the AOSIS.

[5] Non-Self-Governing Territory.

[6] Not a member of the AOSIS.

[7] Non-Self-Governing territory. Observer in AOSIS.

13. **St. Lucia** (Population: 156,000 (1995); Terrain: volcanic, mountainous with broad valleys; Coastline: 158 km)

14. **St. Vincent & the Grenadines** (Population: 118,000 (1995); Terrain: volcanic, mountainous; Coastline: 84 km)

15. **Trinidad & Tobago** (Population: 1,272,000 (1995); Terrain: Flat, hilly, mountainous; Coastline: 362 km)

16. **U.S. Virgin Islands**[8] (Population: 97,300 (1995); Terrain: hilly, rugged, mountainous; Coastline: 188 km)

Other AOSIS members: Belize, Guinea-Bissau, Guyana and Suriname

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[8] Non-Self-Governing territory. Observer in AOSIS.